RARE BOOK CASE
22-5

Johnsmith Recco 542

THE

ORNITHOLOGY

OF

FRANCIS WILLUGHBY

OF

Middleton in the County of *Warwick* Esq;

Fellow of the ROYAL SOCIETY.

In Three Books.

Wherein All the

BIRDS

HITHERTO KNOWN,

Being reduced into a METHOD futable to their Natures, are accurately described.

The Descriptions illustrated by most Elegant Figures, nearly resembling the live BIRDS, Engraven in LXXVIII Copper Plates.

Translated into English, and enlarged with many Additions throughout the whole WORK:

To which are added,

Three Considerable DISCOURSES,

I. Of the Art of FOWLING: With a Description of several NETS in two large Copper Plates.

II. Of the Ordering of SINGING BIRDS.

III. Of FALCONRY.

BY

JOHN RAY, Fellow of the ROYAL SOCIETY.

Psalm 104. 24.

How manifold are thy works, O Lord? In wisdom hast thou made them all: The Earth is full of thy riches.

LONDON:

Printed by *A.C.* for *John Martyn*, Printer to the *Royal Society*, at the *Bell* in St. *Pauls* Church-Yard, MDCLXXVIII.

1873
16.2.1
24 s.

SMITHSONIAN
LIBRARY

fQL
673
W74
1678
BIRDS

THE PREFACE.

WHo the Author of this Hiſtory of Birds was, and why after ſo many Books of this Subject already publiſhed we ſhould attempt to ſet it forth, the Reader may perchance deſire ſome information and account, which we ſhall endeavour briefly to give him. As for the Author the Title-page preſents him with his Name and Country. He was the only Son of Sir *Francis Willughby* Knight, deſcended of two very ancient Families, both *Willughbyes*, the one Honourable, *viz.* that of *Eresby* in *Lincolnſhire*, by the Fathers ſide; the other Worſhipful, *viz.* that of *Willughby* on the *Woulds* in *Notinghamſhire*, by the Mothers. His Mother was the Lady *Caſſandra*, Daughter to the Right Honourable the Earl of *London-Derry*. He was moreover endowed with excellent gifts and abilities both of body and mind, and bleſſed with a fair Eſtate. Howbeit, as he did duly prize theſe advantages of Birth, Eſtate, and Parts, ſo did he not content himſelf therewith, or value himſelf thereby, but laboured after what might render him more deſervedly honourable, and more truly be called his own, as being obtained by the concurrence at leaſt of his endeavours. Firſt then, as God had given him a quick Apprehenſion, piercing Wit, and ſound Judgment, ſo by his great induſtry and conſtant uſe of theſe gifts he did highly improve and advance them. He was from his Childhood addicted to ſtudy, and ever ſince he came to the uſe of Reaſon ſo great a husband of his time, as not willingly to loſe or let ſlip unoccupied the leaſt fragment of it, deteſting no Vice more than Idleneſs, which he look'd upon as the Parent and Nurſe of almoſt all others. Nay, ſo exceſſive was he in the proſecution of his ſtudies and other employments without any intermiſſion or diverſion, that moſt of his Friends were of opinion he did much weaken his body and impair his health by his unceſſant labours and perpetual intention of mind upon buſineſs. However that be, hence it came to paſs that he attained very good skill in all parts of learning, and particularly got a deep inſight into thoſe Sciences which are moſt abſtruſe and impervious to Vulgar Capacities, I mean the moſt ſubtil parts of the Mathematicks. Of his skill in Natural Philoſophy, chiefly the Hiſtory of Animals, [Birds, Beaſts, Fiſhes, and Inſects,] I ſhall ſay no more at preſent, but that it hath not yet been my hap to meet with any man either in *England* or beyond Seas of ſo general and comprehenſive knowledge therein.

But ſecondly, what rendred him moſt commendable was his eminent Vertue and Goodneſs. I cannot ſay that ever I obſerved ſuch a confluence of excellent qualities in one Perſon. For 1. Notwithſtanding the forementioned advantages, which are wont to puff up mens minds with pride, he was ſo truly humble, that I have not known any man of the meaneſt fortune or birth exceed him in that vertue. He deſpiſed no man

Willughby, J.:

for his Poverty or mean Parentage; honoured all men, was affable to the meaneſt, not preferring himſelf before others, but condeſcending to them of low degree. 2. He was ſo reſolutely ſober and temperate, that neither the importunity of company or pleaſure of ſenſe could ever tempt him to exceſs. 3. Of that exemplary chaſtity and purity, that his life condemns the diſſoluteneſs and corrupt practices of the preſent Age, and demonſtrates the poſſibility of reſtraining and regulating thoſe motions and deſires, which of all others are wont to be moſt violent and inordinate. 4. So ſcrupulouſly juſt and righteous, that he had rather a great deal ſuffer wrong than do any. 5. So true to his word and promiſe, that a man might ſafely venture his Eſtate and Life too upon it: His word being, as an honeſt mans is ſaid to be, as good as his Bond. 6. So faithful and conſtant to his Friend in all conditions, as well adverſe as proſperous, that one might be ſecure of him, and confident of his help and aſſiſtance, whatever diſtreſs or calamity might befall one: He never deſerting any man only becauſe fortune frown'd upon him, as the common ſort of Friends are wont to do. 7. He was of ſo diffuſe and comprehenſive Charity, that he could heartily affect and embrace good men of all perſuaſions; Good men, I ſay, to exclude ſuch opinions as are deſtructive of, or inconſiſtent with true goodneſs.

To theſe I might add his Patience and Submiſſion to the Divine Will, which did eminently appear in the time of his ſickneſs, when he profeſſed himſelf contented to leave the world, if it pleaſed God to have it ſo, though then in the height of his ſtrength and parts, and in the hot purſuit of uſeful ſtudies and deſigns, and in ſuch circumſtances, as to his private affairs and concerns in the world, as rendred ſome continuance of life very deſirable to him, and would have tempted a man of ordinary vertue to expreſs ſome anger and diſcontent at the ſentence and expectation of death. And laſtly, his due fear and reverence of the Deity, deep ſenſe of his goodneſs, and thankfulneſs for the ſame, ſincere Piety in all his carriage toward him, and great abhorrency of whatever tended to his diſhonour.

Thus much, though leſs pertinent to the Argument of this preſent Work, I thought fit to premiſe concerning his Vertues, partly to do him right by procuring him the honour due to his memory: And partly to provoke young Gentlemen of this Nation, by the propoſal of ſo illuſtrious an example of their own Rank, to proſecute the ſtudy of ingenuous Literature, and aſpire to true honour by the conſtant exerciſe of Vertue.

I proceed now to give an account of this Work, and acquaint the Reader with the occaſion of his attempting it, and what progreſs he made in it. Obſerving in this buſie and inquiſitive Age the Hiſtory of Animals alone to have been in a great meaſure neglected by *Engliſh* men (for that ſince *Turner* and *Mouffet* none that I know of hath performed any thing therein worthy of commendation) he made the ſtudy thereof his Province, applying himſelf with all diligence to the cultivating and illuſtrating of it. Which that he might the more effectually do, he not only read what had been written by others, but did himſelf accurately deſcribe all the Animals he could find or procure either in *England* or beyond the Seas, making a Voyage into forein Countries chiefly for that purpoſe, to ſearch out, view and deſcribe the ſeveral *Species* of Nature. And though he was not

long

long abroad, yet travelled he over a great part of *France*, *Spain*, *Italy*, *Germany*, and the *Low Countries*. In all which places he was so inquisitive and successful, that not many sorts of Animals described by others escaped his diligence. For my part I know no man who hath seen more Species, been more exact in noting their differences, and inventing Characteristic Marks whereby they may be certainly distinguished; or more curious in dissecting them, and observing the make and constitution of their parts as well internal as external. Howbeit I do not deny but some have been more accurate in anatomizing one or two particular Animals. The reason of this his diligence was, because he observed that some of the descriptions of former Writers of this kind, either by reason of their brevity, or because they contained only general notes, were very obscure, and gave occasion to many errours and mistakes, but chiefly unnecessary multiplications of *Species*; the Readers often mistaking several descriptions of the same Animal, which they meet with in divers Authors, by reason of their generality and obscurity, for so many descriptions of several Animals. Now that he might clear up all these obscurities, and render the knowledge and distinction of Species facile to all that should come after, he bent his endeavours mainly to find out (as I before intimated) certain Characteristic notes of each kind. But if in any kind no singular mark occurred whereby it might be certainly distinguished from all others, he did minutely and exactly describe all its parts, that at least a Collection of many accidents, which all together could not be found in any *Species* else of the same kind, might serve for a Characteristic: That the Reader should not by a general and ambiguous description be left in suspense, or incur the danger of error. But because a prolix and operose description is tedious to most Readers, and to the unattentive seems rather to obscure than illustrate the thing described, to relieve and gratifie such, besides the description he often adds some short notes, by which the Animal described may be distinguished from others of the same kind like to it, and wherewith it is in danger to be confounded. Now though I cannot but commend his diligence, yet I must confess that in describing the colours of each single feather he sometimes seems to me to be too scrupulous and particular, partly because Nature doth not in all Individuals, (perhaps not in any two) observe exactly the same spots or strokes, partly because it is very difficult so to word descriptions of this sort as to render them intelligible: Yet dared I not to omit or alter any thing.

But to proceed, our Author having made so good progress in this Work, that few of our *Europæan* Animals described by others had escaped his view; that he might (as far as in him lay) perfect the *History* of *Animals*, he designed a Voyage into the *New World*, but lived not to undertake it. For about the beginning of *June*, in the year 1672, being seized with a Pleurisie, which terminated in that kind of Fever Physicians call *Catarrhalis* within less than a month after he took his bed, on the third of *July* in the thirty seventh year of his Age he departed this life to the immense grief of his Friends and all good men that knew him, and the great loss of the Common-wealth in general.

Viewing his Manuscripts after his Death, I found the several Animals in every kind both Birds, Beasts, Fishes, and Insects digested into a method

Method of his own contriving, but few of their Descriptions and Histories so full and perfect as he intended them; Which he was so sensible of, that when I asked him upon his death-bed, whether it was his pleasure they should be published, he answered, that he did not desire it, nor thought them so considerable as to deserve it, or somewhat to that purpose, for the very words I do not well remember, though he confest there were in them some new and pretty observations about Insects. But, considering that the publication of them might conduce somewhat 1. To the illustration of Gods glory, by exciting men to take notice of, and admire his infinite power and wisdom displaying themselves in the Creation of so many *Species* of Animals; And 2. To the assistance and ease of those who addict themselves to this most pleasant, and no less useful part of Philosophy; And 3. Also to the honour of our Nation, in making it appear that no part of real knowledge is wholly balked and neglected by us, (he not contradicting) I resolved to publish them, and first took in hand the *Ornithology*.

As for the scope and design of this undertaking, it was neither the Authors, nor is it my intention to write Pandects of Birds, which should comprise whatever had been before written of them by others, whether true, false or dubious, that having already been abundantly performed by *Gesner* and *Aldrovandus*, nor to contract and Epitomize their large and bulky Volumes; lest we should tempt Students to gratifie their sloth so far as to take up with such Epitomes, and neglect the reading of the Authors themselves at large, which would be much more satisfactory and improving: and besides, this were but *actum agere*, such Epitomes being already made by *Johnston*: But our main design was to illustrate the History of Birds, which is (as we said before of Animals in general) in many particulars confused and obscrue, by so accurately describing each kind, and observing their Characteristic and distinctive notes, that the Reader might be sure of our meaning, and upon comparing any Bird with our description not fail of discerning whether it be the described or no. Nor will it be difficult to find out any unknown Bird that shall be offered: For comparing it with the Tables first, the Characteristic notes of the *genus's* from the highest or first downward will easily guide him to the lowest *genus*; among the *Species* whereof, being not many, by comparing it also with the several descriptions the Bird may soon be found. This then being our design, that we might surely effect it, we did not as some before us have done, only transcribe other mens descriptions, but we our selves did carefully describe each Bird from the view and inspection of it lying before us. That this diligence was not superfluous or without effect will appear in that we have thereby cleared many difficulties, and rectified many mistakes in the Writings of *Gesner* and *Aldrovandus*. If it be asked, what caused these great Authors to mistake? I answer, short and general descriptions of Birds of the same Species under different Titles, either sent them by their Correspondents in several parts, or found in Books. Hence their mistakes are especially in the multiplying of Species, and making two or three sorts of one. This is easie to observe in reading of their Works. For their own descriptions of such Birds as themselves saw, are for the most very accurate and full, but those communicated by others are of a different

stamp,

ſtamp, as being compoſed by men not well verſed in deſcribing of Animals, containing only a few general and ambiguous notes, ſo that one deſcription will fit divers Species, or two or three deſcriptions ſuite one and the ſame; which muſt needs occaſion ſuch miſtakes as we mentioned of repeating the ſame Bird two or three times for different kinds, under divers Titles. Many ſuch errors occur in *Aldrovand*, which the Reader ſhall find noted in this Work, and ſome alſo in *Geſner*, notwithſtanding his great skill and circumſpection. Yet do we not pretend to have diſcovered and rectified all the miſtakes and errors in theſe Authors: There remain yet ſundry deſcriptions of this nature, which we are doubtful of whether they be of Birds ſpecifically diſtinct or no: Nor do we ſee any means left to reſolve our ſelves, unleſs perchance by travelling to thoſe places whence ſuch deſcriptions and titles were ſent, where we might probably learn what Birds the Inhabitants underſtand by thoſe names.

Having acquainted the Reader with our principal aim in this Work, which was to give certain Characteriſtic notes of the ſeveral kinds, accurately to deſcribe each *Species*, and to reduce all to their proper *Claſſes* or *Genera*: We ſhall further add, that we have wholly omitted what we find in other Authors concerning *Homonymous* and *Synonymous* words, or the divers names of Birds, *Hieroglyphics*, *Emblems*, *Morals*, *Fables*, *Preſages*, or ought elſe appertaining to *Divinity*, *Ethics*, *Grammar*, or any ſort of Humane Learning: And preſent him only with what properly relates to their Natural Hiſtory. Neither have we ſcraped together whatever of this nature is any where extant, but have uſed choice, and inſerted only ſuch particulars as our ſelves can warrant upon our own knowledge and experience, or whereof we have aſſurance by the teſtimony of good Authors, or ſufficient Witneſſes. And, becauſe what is ſtreight doth both manifeſt it ſelf, and alſo diſcover what is crooked, we contented our ſelves to put down only what we approve, not thinking it neceſſary to ſpend time in confuting the contrary error.

Concerning the names of Birds we did not much trouble our ſelves, there having been diſputing enough about them long ago; but have for the moſt part followed *Geſner* and *Aldrovandus*, being unwilling to diſturb what is ſetled, or diſpoſſeſs Names, that may for their uſe now plead preſcription. For to what purpoſe is it eternally to wrangle about things, which certainly to determine is either abſolutely impoſſible, or next door to it? Eſpecially ſeeing if by immenſe labour it might at laſt be found out, by what Names every Species was known to the Ancients, the advantage that would thence accrue would not countervail the pains. About the Phraſe and Style we were not very ſolicitous, taking greater care to render the Senſe perſpicuous than the Language ornate.

But becauſe Mr. *Willughby* (though ſparing neither pains nor coſt) could not procure, and conſequently did not deſcribe all ſorts of Birds; to perfect the Work, I have added the Deſcriptions and Hiſtories of thoſe that were wanting, out of *Geſner*, *Aldrovandus*, *Bellonius*, *Marggravius*, *Cluſius*, *Hernandez*, *Bontius*, *Wormius*, and *Piſo*; diſpoſing each kind, as near as I could, in its proper place. Now

Now becauſe elegant and accurate Figures do much illuſtrate and facilitate the underſtanding of Deſcriptions, in order to the Engraving ſuch Figures for this Work, Mr. *Willughby* made a Collection of as many Pictures drawn in colours by the life as he could procure. Firſt, He purchaſed of one *Leonard Baltner*, a Fiſherman of *Strasburgh*, a Volume containing the Pictures of all the Water-fowl frequenting the *Rhene* near that City, as alſo all the Fiſh and Water-Inſects found there, drawn with great curioſity and exactneſs by an excellent hand. The which Fowl, Fiſhes, and Inſects the ſaid *Baltner* had himſelf taken, deſcribed, and at his own proper coſts and charges cauſed to be drawn. Which curioſity is much to be admired and commended in a Perſon of his Condition and Education. For my part, I muſt needs acknowledge that I have received much light and information from the Work of this poor man, and have been thereby inabled to clear many difficulties, and rectifie ſome miſtakes in *Geſner*. Secondly, At *Nurenberg* in *Germany* he bought a large Volume of Pictures of Birds drawn in colours. Thirdly, He cauſed divers Species, as well ſeen in *England* as beyond the Seas, to be drawn by good Artiſts. Beſides what he left, the deſervedly famous Sir *Thomas Brown*, Profeſſor of Phyſick in the City of *Norwich*, frankly communicated the Draughts of ſeveral rare Birds, with ſome brief notes and deſcriptions of them. Out of theſe, and the Printed Figures of *Aldrovandus*, and *Pet. Olina*, an Italian Author, we culled out thoſe we thought moſt natural, and reſembling the life, for the Gravers to imitate, adding alſo all but one or two of *Marggravius's*, and ſome out of *Cluſius* his Exotics, *Piſo* his Natural Hiſtory of the *Weſt Indies*, and *Bontius* his of the *Eaſt*.

The Gravers we employed, though they were very good Workmen, yet in many Sculps they have not ſatisfied me. For I being at a great diſtance from *London*, and all advices and directions neceſſarily paſſing by Letter, ſometimes through haſte miſtook in my directions, ſometimes through wearineſs and impatience of long Writing ſent not ſo clear and full inſtructions as was requiſite; and they as often neglected their inſtructions, or miſtook my meaning. Notwithſtanding the Figures, ſuch as they are, take them all together, they are the beſt and trueſt, that is, moſt like the live Birds, of any hitherto engraven in Braſs.

It is requiſite now that we inform the Reader what compendious ways we ſought to avoid unneceſſary expences in graving of Figures. 1. Of the ſame Species of Bird when more Figures than one occurred either in divers Authors, or our own Papers, or both, we cauſed only one, which we judged to be the beſt to be engraven. 2. We have for the moſt part contented our ſelves with the figure of one Sex only, and that the Male. 3. We have omitted all ſuch dubious *Icons* as we knew not whether they were of true birds or not, or could not certainly determine of what *Species* they were. 4. Of ſuch as differ only in bigneſs, or if otherwiſe in ſuch accidents as cannot be expreſſed in Sculpture, we have given only the Figure of the greater. Of this kind are the greater and leſſer *Curlew*, the common *Snipe*, and *Jack-Snipe*, or *Judcock*. And yet ſome Birds we have cauſed to be graven twice when the firſt time the Gravers miſt their aim, and ſhot too wide of their mark: Such are the *red-leg'd Partridge*, the

The common *Swallow*, the *Swift*, the common *Blackbird*, the *House-Dove*, the *Royston Crow*, the *Witwall*, and the *Dottrel*. I might add hereto the *Canada Goose* in the seventieth Plate, for I now persuade my self that the Bird graven in Plate 71. is the same with it. The *Sheldrake* was through mistake twice figured in Plates 70. and 71. so was the *Auk* or *Razor-bill* in Plates 64. and 65. The figures of the *Rock Ouzel*, *Bittern*, and *Stone-Curlew* first graven, though they were passable enough, yet having afterwards gotten very exact Figures of those Birds, we caused them also to be Engraven.

The whole Work we have divided into three Books. In the first we treat of *Birds* in general; in the second of *Land-fowl*; in the third of *Water-Fowl*. The second Book we have divided into two parts: The first whereof contains Birds of *crooked* Beak and Talons; The second, such whose Bills and Claws are more *streight*. The third Book is tripartite: The first part takes in all Birds that *wade* in the waters, or frequent watery places, but swim not; The second, such as are of a *middle* nature between swimmers and waders, or rather that partake of both kinds, some whereof are cloven-footed, and yet swim; others whole-footed, but yet very long-leg'd like the waders: The third is of whole-footed, or fin-toed Birds, that *swim* in the water.

As for fabulous Birds, such as are confessedly so, *viz. Phenixes*, *Griffins*, *Harpyes*, *Ruk*, and the like, I have omitted them, as being no part of our subject, and all that can be said of them having been more than once written already. I have also omitted some that I only suspected for fictitious, as the *Scythian Bird*, the *Aquila Heteropus*, &c. Yet because I would not rely too much upon my own judgment, I have put in the *Appendix* the descriptions of some of that nature out of *Hernandez*, which I refer to the Readers censure.

It remains that I make a grateful mention of such of our learned and worthy Friends, as have given us any considerable information or assistance; as well to do them right, as to acquaint the Reader whom we mean by some names recorded in this Work. Those were Sir *Thomas Brown* of *Norwich* before remembred: *Francis Jessop* Esq; of *Broom-hall* in *Sheffield* Parish, *Yorkshire*, who sent us the Descriptions and Cases of many rare Birds, and discovered and gave us notice of many Species thereabout, which we knew not before to be native of *England*: Sir *Philip Skippon* of *Wrentham* near *Bliborough* in the County of *Suffolk*, Knight, who communicated the Pictures of several Birds we wanted: And Mr. *Ralph Johnson* of *Brignal* near *Greta Bridge* in *Yorkshire*, a Person of singular skill in *Zoology*, especially the *History* of *Birds*, who besides the Descriptions and Pictures of divers uncommon, and some undescribed both Land and Water-fowl, communicated to us his Method of Birds, whereby we were in some particulars informed, in many others confirmed, his judgment concurring with ours in the divisions and Characteristic notes of the *Genera*.

Thus much may suffice to have spoken by way of Preface of the Work in general.

It may now be expected that I give some account of the *English* Translation. But I have not much to say concerning it; I shall only acquaint the Reader what I have therein amended, and what I have thereto added.

First, The errors and mistakes which since this Work was published I have discovered, and in the Translation noted or corrected are these. The first mistake is in the placing of the *Toucan*, falsly called the *Brasilian Pie*, among the Birds of the *Pie-kind*: It properly belonging to the *Woodpecker* Tribe, as having

having a like disposition of Toes, two standing forward, and two backward, and in like manner hewing a hole in a Tree to build its Nest in. This I did before suspect, but am now assured of by an exact description of this Bird I met with in *Jo. Faber* his Explications of some *American* Animals of *Recchus*. 2. In making *Bellonius* his greater *red-leg'd Partridge* or *Greek Partridge* to be a different kind from the common *red-leg'd Partridge*, which upon diligent comparing the Descriptions and Histories, I find to be the same with it. 3. In putting down the *Fringilla spuria cum calcari Alaudæ*, Pag. 188. for a distinct *Species* from the precedent Bird, entitled *Montifringilla major*, or the great *Brambling*. This mistake was committed by meer accident, and forgetfulness. 4. In the conjecture that the *Larus Maximus*, described pag. 261. was the *Skua* of *Hoierus*, whereas I find that our *Catarractes*, described pag. 265. is his *Skua*, the descriptions exactly agreeing. 5. In putting down the Bird entitled, *Anas fera capite subruffo minor* for a distinct *Species*, whereas I am now assured by our Fowlers, that it is the Hen *Golden-eye*. I do also suspect the *Anas fera capite subruffo major*, described for a distinct kind in pag. 282. to have been no other than a Young Cock-*Golden-eye*, that had not moulted his Chicken-feathers. 6. In placing the *Anas fera fusca* or *Pochard*. And 7. the *Havelda* of *Wormius* among the *River* or *Plash*-Ducks, whereas they belong to the *Sea*-kind. 8. In making the Bird described, pag. 289. under the title of *Phascas fortasse Gesnero*, to be a distinct *Species*, which I find by comparing the Birds themselves to be a *Hen-Wigeon*. Besides these, I find remaining still to be corrected, 1. A mistake about the situation of the *blind-guts* in Birds: For they do not descend from the stomach downwards, but ascend from the *intestinum rectum* upwards, being as it were two branches of the *intestinum rectum*, and so in that respect differ not from the Blind-guts of Quadrupeds, as is affirmed pag. 7. 2. Among the Birds that want the back-toe, enumerated, pag. 3. the *Dottrel* is omitted. 3. I am now persuaded that the *Stella Avis* of *Aldrovandus* is a different kind from the *Bustard*, and that the Bird we saw in the Market at *Modena* was this *Stella*, for to my best remembrance it was much less than a *Bustard*, and therefore I revoke what was said in contradiction to *Aldrovandus* his affirmation, that the *Bustard* is a stranger to *Italy*: But it is very likely that this *Stella Avis* is the same with the *Anas Campestris* of *Bellonius*. Besides these the Reader shall find corrected those oversights and errors noted in the Παραγράμματα in the Latine, and others which I cannot now call to mind.

Secondly, For additions there are so many throughout the whole Work that it would be too tedious to enumerate them, I shall only mention the three principal and most considerable, which might pass for just Tractates on those Subjects.

1. An *Epitome* of the *Art* of *Fowling*, collected partly out of *Olina's Uccelleria*, written in *Italian*, but chiefly out of *Gervase Markham's* Book, entitled, *Hungers prevention*, or the *Art of Fowling*; something also being added out of a late *English* Book, entituled, *An Epitome of the Art of Husbandry*, the Author whereof was pleased to conceal his name.

2. An *Idea* of *Falconry*, being an abridgement of the Authors long since Englished and put together by *Turbervile*; and of our own late and best approved Writer *Latham*, with something out of *Aldrovandus*.

3. Directions for the ordering of Singing Birds contracted, out of the forementioned *Epitome* of the *Art* of *Husbandry*, *Olina's Uccelleria*, and *Aldrovandus*. In all which Discourses I have corrected some mistakes in my

Authors

Authors, illustrated what was obscure, and intermingled some observations of my own. Here by the by I cannot but reflect upon the Author of a late *English* Book, entituled, *The Gentlemans Recreation.* For having had occasion to examine and compare Books upon these Subjects, I find that all that he hath considerable concerning *Fowling* is taken out of the forementioned Book of *Markham*, and yet hath he not to my remembrance made any mention of his Author: What he hath of *Hawking* is likewise an Epitome of *Turberviles* Collections, with some addition out of *Lathams Falconry*, without acknowledgment that all was borrowed. I doubt not but I could have traced him in his other Discourses of *Hunting* and *Fishing*, had I had leisure or will to compare his Book with *Turberviles*, *Waltons*, and other Treatises of those Subjects. I do not blame him for Epitomizing, but for suppressing his Authors names, and publishing their Works as his own, insomuch that not only the Vulgar, but even Learned men have been deceived by him, so that they have looked upon him as a considerable Writer, of extraordinary skill in such Arts and Exercises, and one that had advanced and improved them. By the way therefore it may not be amiss to caution Learned men that they be not too hasty nor lavish in their public commendations of new Books before they have taken the pains to compare them with former Treatises on those Subjects, lest they render themselves ridiculous by publishing those for advancers of knowledge, who are indeed meer Plagiaries and Compilers of other mens Works.

I might have added a censure of the flesh of Birds in reference to wholsomness in Diet, but that is done in the particular Species, and by many Authors in the Dietical part of their Institutions of Physic; only in general we have taken notice, 1. In Land-fowl, that the flesh of no Carnivorous Bird is good meat, neither of the *Rapacious* kind that touch no Vegetables; nor yet of the *Crow-kind*, which feed promiscuously upon Flesh, and Fruits, or Seeds. 2. That the flesh of such birds as feed only upon Insects is not approved good meat, for example, *Woodpeckers* and *Swallows*. As for small Birds of slender Bills that are reputed good, they feed as well upon Fruits and Berries as upon Insects, though it may be chiefly upon Insects; but they are best when they feed upon Fruits, as the *Beccafigo* in Fig-time, 3. The Birds that feed upon Grain and Seeds only, (if any such) or upon Fruits, or Seeds, and Insects, as the *Poultry-kind*, are the best of all. 4. Of Water-fowl, such as feed only or chiefly upon Fish are not good meat; Yet the Young of some of these are approved as a delicacy, though I scarce think very wholsom: Such are young *Soland-Geese*, *Puffins*, *Pewets*, and *Herons*. Besides these, all Water-fowl, though feeding only upon Insects, are esteemed good to eat, and admitted to our Tables: The most delicate of these are those we have termed *Mud-suckers*, that with their long Nebs thrust into the Earth suck out of the Mud or Ouze a fatty juyce, by which they are nourished.

Two or three Observations communicated by Mr. *Martin Lister* of *York*, my honoured Friend, being through forgetfulness omitted in their proper places in the Book, I shall thrust into this Preface. 1. The *Curruca* or *Hedg-Sparrow* lays Sea-green or pale-blue Eggs, which neatly emptied and wired I have seen fair Ladies wear at their Ears for Pendants. 2. One and the same *Swallow* I have known by the subtracting daily of her Eggs to have laid nineteen successively, and then to have given over. 3. The *Bunting* breaks not Oats, but hulls them most dexterously, as I observe, having of them by

me at this preſent in Cages. 4. The *Robin-red-breaſt* will not touch a hairy Caterpillar, but will gladly eat any ſmooth one that I have given him; and there is no better way ſpeedily to tame and make wild Birds ſing than to give them a pleaſing Inſect or two daily. 5. Neither ſlender nor thick-bill'd Birds but will gladly eat Spiders, as I have experienced in ſome.

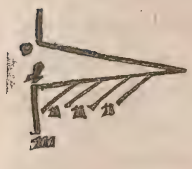
I have no more to add, but only to adverti ſe the Reader, that by the breadth of a Bird we underſtand the diſtance between the tips of the Wings extended; by the *flag-feathers*, or *beam-feathers*, or *quil-feathers*, or *prime* feathers, or *ſails* of the Wing, we mean thoſe of the firſt row. That when we ſay from Bill to Tail, we mean from Bill-point to Tail-end: That for brevities ſake, and want of Engliſh words, I was in this Tranſlation often forced to uſe Latine, as for the circle about the Pupil of the Eye, *Iris*, and in the Plural, *Irides*; for the liminary ſtomach deſcribed page 8. *Echinus*, and ſome others: And ſo I bid him

Farewell.

Errata.

PAge 13. *line* 10. *for* or *read* as. 22. 61. Witwall. 38. 14. Glaſs. 46. 50. *for* the *read* to. 58. 6. *after* called *add* by the. 64. 18. Oripelargus. 65. 4. Cloak. 66. 39. *after* ſeveral *add* ſorts. 94. 56. Pauwius. 109. 32. unuſual. 129. 27. *after* head *put in* of. 135. 26. lower. 137. 20. down. 143. 43. *for* of *read* to. 153. 32. wallowiſh. 159. 32. gate. 201. 9. Line. 203. Birds. 233. 22. *dele* the reſt their lower. 252. 36. *after* ſaith *add* being. 254. 39. ſeven or eight. 256. 17. cinereous. 257. 16. *after* lower *add* joynt. 260. 17. ſix or ſeven. 270. 11. tooth. 294. 17. eight or nine. 308. 8. Eggs. 311. 38. Aberdovey. 332. 27. *for* ſmall *read* broad. 337. 45. *for* yard *read* foot. 369. 18. Schellent. 378. 22. Anas. 379. 2. Ipecati apoa. 385. 41. *for* White *read* Yolk.

Fill up the blank page 40, *line* 12 *with theſe words*, (Tab. 2. Fig. 7.) *That, page* 46. *line* 45 *with theſe* (9. Tab. 2.) *Page* 369. *line* 25. *blot out theſe words*, In the leſſer rows of covert-feathers is alſo a great ſpot of white. *Page* 374. *this Figure is omitted.* The Birds marked with an Aſteriſc are ſuch as we our ſelves ſaw not, nor deſcribed, but borrowed their deſcriptions of others. But others there are beſides which ought to have been marked, viz. *Bontius* his Indian Raven, page 126. Toucan 128. Jaguacati guacu 147. The Dodo 153. Mitu 158. Pauxi 160. Mituporang *Ibid.* Jacupema 165. Jambu 167. Damaſcus Partridge *Ibid.* Indian Quail 171. Canne-petiere 179. Attinga guacu mucu 198. Calandra 208. Giarola 209. All the Birds deſcribed page 210, 211. Humming birds 230. though we have often ſeen many ſorts of theſe. Wood Titmouſe 243. *Aldrovands* firſt Yellow-hammer 269. Cariama 276. Anhima *Ibid.* *Aldrovands* third aſh-coloured Heron 278. Squaiotta 281. The other green-footed Water-hen 313. Another green-footed Water-hen of *Bellonius* 314. All the Water-hens deſcribed pag. 317, 318. The Penguin 322. Greater creſted Doucker of *Aldrovand* 339. Water-hare or creſted *Mexican* Doucker *Ibid.* The ſharp tail'd *Iſland*-Duck of *Wormius* 364. Ipeca guacu 383.



Some other literal faults or omiſſions, and errours in pointing there are, which becauſe they are obvious and eaſie to be corrected, and cannot likely occaſion any doubt or miſtake, I have not here put down, leſt I ſhould ſeem too much to diſtruſt either the Readers judgment, or his ingenuity. For my part, I can eaſily pardon ſo few faults of the Printers as I have obſerved in this Work, eſpecially being printed from a Manuſcript; as knowing by experience how difficult a thing it is for the moſt quick-ſighted, circumſpect and diligent Corrector that is, to eſpy all the faults that the Compoſitors will commit, even in one ſheet of Paper, at once or twice reading over.

THE

THE FIRST BOOK OF THE ORNITHOLOGY OF *FRANCIS WILLUGHBY* Esq;

Of Birds in general.

CHAP. I.

Of the external parts of Birds.

WE do not intend to treat of all the parts of Birds, but of those only which are either proper to this kind, or if common to other Animals, have in Birds something peculiar in their shape, size, temper, use, or some other remarkable accident.

The Bill and its uses.

1. All Birds in general, without exception of any, want Teeth, in stead whereof they are furnished with a Bill of a horny substance. By Teeth we understand Teeth properly so called, *viz.* such as are distinct and separable from the Mandibles. For in some Birds, as for example *Divers*, the Bills themselves are toothed or indented after the manner of a Saw. The Bill in Birds hath two principal uses; the one as an instrument to gather and receive their food; the other as a weapon to fight with, either by assaulting others, or defending and revenging themselves. These, I say, are the principal uses, besides which it serves them also for other purposes, to wit, building their Nests, feeding their Young, preening their Feathers, and some for climbing, as the *Parrot* and *Shell-apple*.

The Head.

2. In all Birds, except Nocturnal ones, the head is smaller and bears less proportion to the body than in Quadrupeds, that it may more readily divide the Air in flying, and making way for the body render its passage more easie.

The Eyes.

3. In Birds and Fishes the eyes are more flat and depressed than in Quadrupeds. A circle of small plates of bone placed scalewise under the outward coat [*tunica sclerodes*] where the *processus ciliares* are, encompasses the pupil of each eye in Birds, to strengthen the eyes, and defend them from injuries. Moreover most, if not all Birds, have a Membrane for Nictation, called in Latine *Periophthalmium*, wherewithal they can at their pleasure cover their Eyes, though their eye-lids be open. This hath its rise from the greater or more obtuse corner of the Eye, and serves to wipe, cleanse, and perchance moisten the *Superficies* of it. This Membrane is not proper to Birds only, but common with them to many Quadrupeds. * Dr. *Harvey*, treating of the Eyes of Birds hath this observation: *The Eyes of Birds* (saith he) *never contract themselves to that proportion which is between the eye and head of a viviparous Animal. For if in Hens or other Birds you take off the skin covering the eyes, you shall find that either of them will at least equal the whole bulk of the brain: But in a Woodcock, and the like, either eye is greater than all the rest of the head, setting aside the Bill. In general the orbit or cavity containing the eye in all Birds exceeds the brain it self, as may be seen in their skull. Their eyes indeed outwardly appear but small, because excepting the pupils they are wholly covered with skin and feathers.* In our observation the cavity containing the brain is greater than the orbit of either eye in many, not to say all, Birds.

Membrane for nictation.

* *Of the Generat. of Animals Exer.* 18.

The Ear. 4. All Birds want the external ear, ſtanding out from the head. For though there is a ſort of Owl called in Latine *Noctua aurita*, or the eared Owl, yet hath it not ears properly ſo called, but only feathers ſticking out on each ſide the head, ſomewhat reſembling Ears or Horns, and is therefore called alſo the *Horn-Owl*. I ſuppoſe the feathers encompaſſing the Ear-holes in Birds ſupply the defect of the exterior Ear. In moſt ſorts the Ear-holes are open and uncovered; but in all nocturnal, and ſome diurnal rapacious Birds provided with covers.

The Bridle of the mouth. 5. The Bridle of the mouth, or the Membrane connecting the Mandibles at each corner, either falls inward when the mouth is ſhut, as in moſt Birds, or outward, as in *Larks*. By the ſoftneſs, colour, and thickneſs of this part young birds may be diſtinguiſhed from old ones.

The Epiglottis. 6. All Birds want the* *Epiglottis*; whence it is manifeſt, that part is not at all neceſſary to the modulation or articulation of the voice; ſeeing many Birds can tune and modulate their voice moſt melodiouſly, and ſome alſo ſpeak articulately, notwithſtanding they want it. The cranny in the top of the† *Larynx*, through which the Air paſſes to and fro in reſpiration, lies directly under the fiſſure or cleft of the Palate, or the hole which leads to the Noſthrils.

* *i. e.* The cover of the Wind-pipe.

† The head of the Wind-pipe.

The Neck. 7. Such Birds as have long Legs, have alſo a long Neck; for that otherwiſe they could not commodiouſly gather up their food, either on Land, or in the water. But on the other ſide, thoſe which have long Necks have not always long Legs, as appears in *Swans*, *Geeſe*, and other Water-fowl; whoſe Necks ſerve them to reach to the bottoms of Rivers, Lakes, and Pools of water, to fetch up thence, Snails, Whilks, Inſects, Seeds, and Herbs, while their bodies ſwim on the Surface of the water.

The Merry-thought. 8. All Birds, inſtead of Channel-bones [*Claviculæ*] wherewith many Quadrupeds are furniſhed, have a bone which we in Engliſh commonly call the *Merry-thought* [*furcula.*]

The Wings. 9. All Birds whatſoever have Wings, or rudiments of Wings; which anſwer to the fore-legs in Quadrupeds. Among Land-fowl the *Oſtrich*, *Caſſowary*, and *Dodo*; among Water-fowl the *Penguin* have wings altogether uſeleſs and unfit for flight. Thoſe eſpecially of the *Caſſowary* are ſo very little and next to none, that I cannot imagine what uſe they ſhould be of to her. As for the *Oſtrich*, her Wings extended and agitated aſſiſt her in running, being like Sails to a Ship. Inſects indeed have Wings, and ſo have Bats, but of a different kind from thoſe of Birds; the former Membranaceous, the latter Cutaneous: Only Birds have Wings made up of Feathers. All Birds toward the extremity of their Wings have a certain finger-like *Appendix*, which we are wont to call the *Secundary* or *Baſtard Wing*: It is made up of four or five ſmall feathers. Beſides this under the wing, or on the inſide of the Wing, ſome Birds, eſpecially Water-fowl, have a row of feathers growing, which we call the *Interiour baſtard wing*; which in moſt Birds is white of colour.

The exteriour Baſtard Wing.

The interiour Baſtard wing.

The Legs and Feet. 10. All Birds are two-leg'd, which is common to them with man; who is therefore defined by *Plato*, *Animal implume bipes*, *a two-legg'd Animal without feathers*, to diſtinguiſh him from Birds. But this definition being rendred ridiculous by *Diogenes*, turning looſe a Cock with his feathers plucked off, and crying *Ecce hominem Platonicum*, See *Plato's* man: To mend the matter and ſecure the definition from cavil and deriſion, they added to it Πλατυώνυχον, *with broad nails*, thinking that thereby they had perfectly excluded all Birds; whereas had *Diogenes* been well skilled in the Hiſtory of Birds, he might have ſoon fitted himſelf with a Bird to pluck, that ſhould have anſwered their reformed definition, as well as a Cock did their original, *viz.* a *Didapper* or *Loon*, and alſo a *Stork*, that having broad nails as well as man. But to leave that, and return to the matter in hand; ſome *Swallows* indeed are called * *Apodes*, not becauſe they do altogether want feet and legs, but becauſe they have very ſhort, little, and infirm ones. Theſe by reaſon of the length of their wings and ſhortneſs of their legs, if they happen to fall on the ground, can hardly raiſe themſelves again. But that the *Birds of Paradiſe*, ſo called, ſhould want feet, as was not long ſince generally believed, not only by the Vulgar, but alſo by the greateſt Naturaliſts themſelves, even ſuch as were moſt converſant in the *Hiſtory of Animals*, becauſe thoſe brought out of the *Indies* were wont to be mutilated and bereaved of their feet, is now ſufficiently convinced to be falſe by the teſtimony of eye-witneſſes, and by the Birds themſelves brought over intire, ſo that no man in his right wits can any longer doubt of that matter.

* Footleſs.

Birds of Paradiſe.

The Toes. 11. Moſt Birds have four Toes in each foot, three ſtanding forwards, and one backwards. Some few have only three, all ſtanding forwards, for theſe want the back-

back-toe. Such are among the Birds hitherto known, 1. The *Cassowary* or *Emeu*; 2. The *Bustard*; 3. The *Stone Curlew* or *Oedicnemus* of *Bellonius*; 4. If it be distinct from the precedent, the Bird called *Stella* by *Aldrovandus*; 5. The *Anas Campestris* of *Bellonius*; 6. The *Sea-Pie* or *Hæmatopus* of *Bellonius*; 7. The *Himantopus* of *Pliny*; 8. The *Green Plover*; 9. The *Sea-Lark*, called *Charadrius* by *Aldrovandus*; 10. The *Sanderling*. And of whole-footed Fowl, 11. The *Penguin*; 12. The *Coulterneb*, *Pope* or *Mullet*, i. e. *Anas Arctica Clus.* 13. The *Auk*, or *Razor-bill*; 14. The *Guillemot* or *Sea-hen*; 15. The *Mergus* of *Bellonius*, if it be a different Bird from the *Auk*, which we doubt of; And lastly, The *Greenland Dove*. The *Ostrich* only hath but two Toes: Yet *Marggravius* gives three to the *Brasilian Ostrich*. More than four toes in each foot (whatever the Ancients report of the *Porphyrio*) Nature hath bestowed on no sort of Bird, unless you take the Spur in the *Poultry kind* for a Toe. Of those which have four Toes, the most have them standing three forward, and one backward; some have two forward, and two backward, as the *Cuckow*, all sorts of * *Parrots* and *Wood-peckers*, &c. Some have two forward, one backward, and a fourth movable outward, so far as to make a right Angle with the middle Toe, as the *bald Buzzard*, and perchance some other Birds of prey, and all *Owls*. And lastly, some have all four standing forward, as the *Swift*. Those which want the back-toe never sit upon Trees. The middle-toe and Leg-bone in most Birds are of equal length. In some whole-footed Birds the inmost Toe hath an external welt or border of skin all along the length of it, of a good breadth; but never the outmost.

What Birds want the back-toe.

The situation of the Toes.

* Parrots are rather of the third sort, that can move one Toe either way.

12. In all Birds that have four Toes, excepting only the *black Martin* or *Swift*, the back-toe hath but one bone, the outmost of the fore-toes two, the middlemost three, and the inmost four. Which order, so constantly observed by Nature, hath not as yet been taken notice of by any Naturalist, that I know. Of all the Birds (as I said) that we have as yet taken notice of, the *Black Martin* is only to be excepted, whose feet are of a singular make, and different from those of other Birds as shall be shewn in its History. The hinder-toe, in those Birds which have it, is situate on the inner side of the foot, supplying the place and use of a Thumb. The Claw or Talon of the hind-toe, at least in Land-fowl, is the greatest and strongest of all. In those Birds that have but one back-toe, the outmost of the fore-toes for some space from the bottom is joyned to the middle toe, that it may not fall backward, nor so much as run outward, [in most Birds, not in all.] This conjunction is either immediate by cohæsion, or mediate by an intervening Membrane.

The bones of the Toes.

13. All Birds that we have yet seen and examined, even such as want a Tail, have a Rump. Upon the Rump grow two Glandules, designed for the preparation and secretion of a certain unctuous humour, and furnished with a hole or excretory Vessel. About this hole grows a tuft of small feathers or hairs, somewhat like to a Painters Pencil. When therefore the parts of the feathers are shattered, ruffled, or any way discomposed, the Bird, turning her head backward to her rump, with her Bill catches hold of the forenamed tuft, and pressing the Glandules, forces out the oyly pap, and therewithall anointing the disjoyned parts of the feathers, and drawing them out with her bill, recomposes and places them in due order, and causes them to stick faster together. But here we are to take notice, that the Glandules of the Rump are lesser in those Birds that want Tails, as *Colymbi*, and the like, than in those that have them.

The Rump and its Glandules.

14. *The Orifices of Excrements and that of the Womb have a contrary site in all feathered Fowl to what they have in other Animals: For in these, that of the Excrements is placed immediately under the Tail, and beneath it that of the Womb: In those, the vent or Orifice of Excrements is situate lowermost, the aperture of the Womb between that and the Rump.* * *Aldrovandus* thinks the convenience of coition is the cause of this position of parts: *For* (saith he) *in these Animals engendring, the Male getting upon or treading the Female, the Instruments of generation ought to be near one another, that they may more easily and readily couple together.* Which reason is not to us satisfactory, for that Quadrupeds which mingle also by supergression or leaping, though they have not their Genitals so situate, experience from thence no difficulty or inconvenience in their Coition.

Harvy of Generat. Exer. 53.

* *Ornithol.* lib. 14. c. 1.

15. It is common to all Birds to have their whole body, or at least the greatest part of it, covered with feathers growing thereon. By the word body in this place I understand only the Trunk of the body: For in most Birds the legs and feet, and in some also the head is uncovered. I add [the greatest part] for the *Ostrich* sake. For

All Birds feathered.

though the legs and feet (as I said) in most Birds, and in some also the heads are naked, as for example in the *Turkey*, the *Crane*, the *Emeu*, &c. yet besides the *Ostrich* we know no Bird that hath any other part of its body bare of feathers. What is reported of a kind of Hens, that bear wool instead of feathers we take to be false and fabulous. Now though the words *Penna* and *Pluma*, which we may English *Quill* and *Feather*, or hard and soft feather, be sometimes promiscuously used, at least *Penna* in good Authors contains under it *Pluma*, yet we in this work for greater perspicuity distinguish these names, with our excellent *Harvey*, in this manner: Pennæ *differ from* Plumæ *in their shape, use, place, and order of growth. Chickens are first plumigerous before pennigerous.* [Herein I must crave leave to dissent from him, unless he comprehends the first *Lanugo* or Down upon Chickens under the name of *Pluma*, for I think the Quils begin to spring as soon as the rest of the Feathers.] *For the* Pennæ *or Quils are found only in the Wings and Rump, and spring deeper from the lower part of the skin, or the very* * Periosteum, *and serve for motion and flight; the* Plumæ *or feathers spring from the upper part of the skin, and are found every where in the body for defence and ornament.* The Down, wherewith Birds newly hatch'd are covered, sticks, for the most part, to the tips of the primigenial feathers. In very many Birds the middle parts of the feathers are black.

How *Penna* and *Pluma* differ.

* The skin investing the bone.

16. The Tails of Birds are made up of feathers. Most Birds have this part, some few want it, as the *Doucker* or *Loon*, and a sort of *Hen*. The Tail serves them for steering their course, and turning in the Air, as it were a Rudder. This is chiefly seen in *Kites*, of which *Pliny* saith thus, *This kind seems to have taught men the Art of governing a Ship by the flexures of their Tails, Nature shewing in the Air what was needful to be done in the deep.* Hence those Birds that have but a short Tail and long legs, stretch out their Legs backward in flying, to supply the defect of the Tail; whereas other Birds, which have long or indifferent Tails fly most with their Legs drawn up to their body, some few with them hanging down, as *Water-Hens*. Besides, the Tail doth not only serve for directing and governing the flight, but likewise for supporting and keeping even the body. Hence the † *Colymbi*, which have no Tails, fly very inconveniently, as it were erect in the Air, with their heads straight upward, and their Tail almost perpendicularly downward. In many Birds the outmost feathers of the Tail are whiter than the middle ones. The two middle feathers are not situate in the same right lines with the rest on each side, but a little higher or more forward. The number of Tail-feathers in no sort of Bird is odd. We have not as yet observed in the Tail of any Bird fewer than ten feathers; though *Marggravius* mentions some *Brasilian* Birds that have but eight feathers in their Tails: And it hath been told us, that the *Tropic-bird* hath only two, but those very long ones.

The Tail and its uses.

† Douckers or Loons.

17. The tips of the *Flag-feathers* of the Wings run out into a point on that side the shaft in such as are gradually longer, which respects the feathers that are longer, or that run out further; so in the ten outmost feathers the exterior Vanes run out into points, because the exterior of those feathers are longer than the interior, or at least by reason of their situation in the Wing complicated run out further. In the rest of the Flags towards the body, the interior Vanes run out into points, because from the tenth inwards the interior feathers run out further than the exterior, by reason likewise of their site in the Wing closed. In divers Birds the tips of the middle Flag-feathers are as it were indented, the Vane on each side the shaft running out equally beyond the shaft. This happens when the feathers are of equal length, the Antecedent being neither longer nor shorter, nor any way more produced than the Consequent. The inner Vanes of the Flag-feathers of the Wings are in most Birds broader than the outer.

The Flag-feathers of the Wings.

18. All Birds, as far as we yet know, moult all the quills and feathers of their whole bodies yearly. The bottoms of all the feathers, (that is, the lower parts that appear not to sight) in Birds of all sorts are of one and the same colour, and for the most part different from what is exposed to view.

Birds moult their feathers yearly.

19. The Pectoral Muscles, and such as serve to move the Wings, are of all others the thickest and most fleshy. For since the flight of Birds is not performed without a strong motion, and vehement agitation of the Wings, to which force is required, it was requisite the Organs designed for that exercise should be the strongest and most able. On the contrary, in man the Muscles which serve to move the Legs are greater and stronger than those which belong to the Arm: Because their action, being to hold up the whole body, and transfer it from place to place, requireth great ability and vigour. Whence, if it be possible for Man to fly, it is thought by them who have curiously

The Pectoral Muscles.

curiously weighed and considered that matter; that he that would attempt such a thing with hope of success, must so contrive and adapt his wings, that he may make use of his legs and not his arms in the managing of them.

CHAP. II.

Of the inward parts of Birds.

THe learned Doctor *Willis* in his Book of the *Anatomy* of the *Brain*, Chap. 5. doth largely treat of the Brains of Birds, where he accurately describes their Teguments, Parts, and Ventricles, in these words: 'The upper part of the *Dura mater.* 'Skull covering the Brain being taken up, the thicker Membrane or Tegument, 'called, *Dura Menynx*, straitly embraces the whole bulk within contained. In the 'middle of this Membrane, where the Brain is divided into two Hemispheres, there 'is a *Sinus* [a hollow Cavity or Vessel] extended long-ways; which (no Sithe-like 'process being there let down between the Hemispheres, as in Men and Quadru-'peds) is not very deeply inserted into the Brain: In that part of this Membrane 'which interposing it self divides between the Brain and the *Cerebellum*, there are 'formed two lateral *Sinuses*. There is moreover in Birds the fourth *Sinus*, but situate 'something more backward than in Man or Quadrupeds. For a little below the 'Conarion or Pine-like Glandule a round hollow process is let down from the * *Dura* * The exteri-'*Mater* upon the legs of the spinal marrow [pith of the back-bone] produced, riour and thicker Coat 'where it is straightway divided into two branches, of which it sendeth on each side or Tegument 'one upwards into the Cavity situate in the hinder part of the Brain between the of the Brain. 'striate Membrane and the Hemisphere of the Brain.

'This uppermost Membrane, called *Dura Menynx*, being cut off round about, and 'laid aside, the very thin Membrane immediately investing the Brain, called *Pia* '*Mater*, comes in view: Which is not adorned with such a thick contexture of Vessels 'as in Man and other perfect Animals; but consisting of a very subtil web of Fibres, 'doth only wholly invest and closely embrace the plain and even Surface of the Brain, 'devoid of all windings or plaits [*Gyris & anfractibus.*]

'The Fabric of the brain in Birds, is unlike to that of Men and Quadrupeds: For 'besides that it hath no windings [*anfractus*] or inequalities in its exterior part, 'inwardly also the callous body, the *Fornix* or arched Roof, and also the striate bo-'dies, such as we have before described; moreover, the whole frame of the Brain is 'otherwise contrived and figured. That these things may be the more clearly per-'ceived, take for dissection the Brain of a *Goose* or *Turkey*, and having cut open the 'Teguments, pressing gently where the fissure of the Brain is, separate by degrees 'the one half from the other, till you come to the very bottom, in which are two 'pithy bodies, which being stretched out transversly like Nerves, connect the He-'mispheres of the Brain together. Both sides of the Interstice are invested with a 'whitish Membrane, marked with strakes as it were rays, drawn from the whole 'compass or Circumference thereof toward the inferior Angle: Which strakes are 'concentred about the insertions of the medullary bodies. This Membrane being 'cut there will appear underneath it in each Hemisphere of the Brain a Cavity ex-'tending it self over the whole space on that side the Interstice, and also covering the 'hinder Region of the Brain, the Roof whereof is the said Membrane. Both Cavi-'ties about the bottom open into an intermediate common passage or channel going 'out into the * *infundibulum*, and from both sides of that passage are stretched forth * The funnel 'the legs of the produced spinal marrow [*Medulla oblongata*] on which the He-or hole lead-'mispheres of the Brain on each side are hung by the two medullary bodies; to wit, ing to the *Pi-*'from the main bulk of the Brain lying under the Ventricle the one half of the spinal *tuitaria Glan-*'marrow proceeds, and from the striate Membrane covering the Ventricle the other *dula.* 'half. From both these placed in both sides certain medullary bodies, already men-'tioned, shooting forth transversly like Nerves do connect the two Hemispheres of 'the Brain. Moreover, these two uniting and growing together on both sides, do 'fasten both Hemispheres of the Brain to the legs of the spinal pith produced, [*Me-*'*dullæ oblongatæ.*]

'So that the figure of the Brain in Birds, compared with the Brains of Men and 'the more perfect Quadrupeds, seems to be as it were inverted. For as in these

'the

'the cortical part is exteriour and uppermoſt, and the medullary ſpread under it; ſo 'in Birds the lower part, conſiſting of a thicker and more bulky body, anſwers to, 'or is in ſtead of the bark; the external and ſuperiour Membrane covering the Ventricle being above any part the moſt pith-like. Furthermore, the Ventricles in the 'Brains of Men and Quadrupeds are ſituate beneath, near the baſe or bottom of the 'Brain; in Birds uppermoſt, and near the outſide. The reaſon of this difference 'ſeems to be, becauſe in a more perfect Brain, ſuch as are thoſe of Men and Quadrupeds, the Animal Spirits have both their original and exerciſe therein; *viz.* they 'are generated in the cortical part, and in the Medullary (ſpread copiouſly under the 'cortical) circulated and variouſly expanded for the actions of the ſeveral faculties. 'But in the Brain of Birds there is indeed ſpace ſufficient for the generation of Spirits, 'but ſcarce any room afforded for their circulation. For the Brains of Birds ſeem not 'to be much employed in the functions of Fancy or Memory. Yea, moreover it is to 'be thought, that the Spirits produced in the Brain are exerciſed for performing the 'animal function chiefly in the *ſpinal pith produced*, [*medullâ oblongatâ*] for there (as * *Corpus callo-ſum.* † *Corpora ſtriata.* 'we ſhall ſhew anon) the Medullary ſubſtance, which is in ſtead of the * *Callous body*, 'is placed: And to the † *ſtriate bodies* in others, anſwer the *ſtriate Membranes* in theſe; 'by which the Spirits procreated in the Brain, without any marſhalling or ordering 'there, are forthwith carried into the *prolonged pith*. But becauſe the Spirits generated in the Brain muſt ſomewhere depoſe their ſerous Excrements, therefore from 'the complicature of the *ſtriate Membranes* over the hind-part of the Brain and the 'legs of the prolonged pith, do reſult Ventricles fit enough for that purpoſe. How- * The vaulted roof. 'beit in the brains of Birds, the * *Fornix* being wholly wanting, there are only the 'two anteriour Ventricles; within which the *Plexus Choroides* is ſpread out; the 'Venoſe portion whereof (as was juſt now ſaid) hath its riſe a little lower from the 'fourth *Sinus*, but the Arteries come from both ſides the prolonged pith.

'Neither doth the Heterogeneity, or conformation different from that in Men 'and Quadrupeds, appear more in the Brain of Birds than in the *Spinal pith produced*: * Branching or diviſion. 'for in the firſt * Section thereof, whence the Optic Nerves ariſe, two eminent protuberances or bunches grow to each ſide. Theſe are in proportion much greater 'than the Orbicular Prominencies in more perfect Brains, ſo that they ſeem to be a 'ſecundary or ſubordinate Brain: Both are of a whitiſh colour, and purely Medullary, with an internal Cavity: So that in this ſort of Animals are found two Ventricles in the Brain, and as many in the *prolonged pith*. And whereas in theſe, as in all 'other Animals, there is alſo a Cavity under the *Cerebellum*, the Ventricles in the whole 'Brain differ as well in Number as in Figure and Poſition.

* The body of the pith of the pith of the back-bone. † Watry Excrements. 'In the middle of the * Medullary Trunk, to wit, where thoſe prominencies 'grow to its ſides, is a cranny or inciſure leading to the funnel [*infundibulum*] into 'which both Ventricles have their outlets or apertures; ſo that there is no doubt, but 'the † Seroſities there collected are that way avoided. Moreover, it is very likely, 'that theſe hollowed and medullary prominencies in Birds do ſupply the place and uſe 'of the *Callous body*; the Animal Spirits being in them circulated for the exerciſe of 'their Faculties. For the room in the Brain is but ſtrait, ſo that within its limits the 'Spirits cannot be both produced and circulated. Furthermore, whereas in Birds 'there is more uſe of Animal Spirits for the actions of the loco-motive faculty, than 'thoſe of the Fancy or Memory, conſequently their chief place or rendezvouz, where 'they both convene and are exerciſed, ought to be ſituate in the prolonged pith, rather 'than in the Brain.

* *Arteriæ Carotides.* † Textures or complication of veſſels 'The * *Carotide Arteries*, which bring bloud to the Brains of greater Birds, are ſo 'ſmall that they bear no proportion to the ſame in Man and Quadrupeds. Their 'trunks being entred, the Skull without any divarication into the *Net-like* † *plexus*, 'after the ſame manner as in other Animals, aſcend by the *Pituitary Glandule*, and 'proceed ſtrait to the Brain, and ſo diſtribute certain ſlender twigs both to its exteriour circuit, and through its interiour receſſes. For indeed the Brains of Birds are 'irrigated with a very ſmall portion of bloud in reſpect of other Animals; becauſe 'not much bloud is required to the refection of the Animal Spirits, where the fancy 'and imagination are not much exerciſed.

* *Proceſſus mammillares*; Pap like. † *Os cribroſum.* 'Birds (contrary to what ſome aſſert) have both the * *Mammillary proceſſes*, and the '† *Sieve-like bone*: for the anteriour productions of the Brain very much extenuated 'and involved in the harder Tegument or Membrane, [*Dura Menynx*] running forward almoſt to the middle part of the Bill, are inſerted into a Triangular bone, 'wherein is a double *Sinus* or Cavity, divided by a thin partition [*Septo.*] Theſe

'proceſſes

'processes of the brain being brought into the *Sinus* or Cavities of the foresaid 'bone, end in bladders full of a limpid water, which do plainly resemble the *Mam-* 'millary processes in a Calf, replete with the like fair water. Moreover, seeing that 'from the fifth pair of Nerves a remarkable branch in each side passing through the 'orbit of the eye, enters the Cavern of the Nosthril, a branch sent forth from its trunk is 'bestowed upon the very Orifice of the Nosthril; in the mean time both the greater 'trunks being compassed about by the Cribrose bone, meet together, and by and by 'again separating or receding from each other, and being brought to the end of the 'Bill are distributed through the palate. After this manner Birds as well as men and 'Quadrupeds are furnished with a peculiar Organ of smelling, *viz.* a double mam- 'millary process, and have moreover within their Nosthrils accessary Nerves from 'the fifth pair; by whose action, and the communication of their branches to other 'parts, there is even in them contracted so near an affinity between the senses of 'smelling and tasting. The other pairs of Nerves agree most-what with those of man 'and Quadrupeds. We have likewise observed, that as to the little Brain [*Cerebel-* 'lum] and the remaining portion of the prolonged Pith, there is no great difference 'between Birds and those other Animals we have before considered: Save that the '*Orbicular Prominencies* before the *Cerebellum*, and those other annulary ones under it, 'which occur in those, are both wanting in Birds. Indeed, these latter seem not at 'all needful, and as for the former, those *medullary hollow prominencies*, which we 'have shewn to be in Birds, supply their rooms, and make amends for their ab- 'sence.

Thus far D. *Willis:* All which things we have by experience found to be just so as he hath delivered; though perchance the Reader that is not well skilled in Anatomy may experience some difficulty in understanding them, especially not being illustrated by figures, to assist his fancy.

The Lungs. The Lungs in all birds that we have dissected, and without doubt in all others whatever, stick so fast to the sides, ribs, and back, that they can be but very little dilated or contracted. *Moreover (which yet,* saith * Dr. *Harvey, I do not remember to have been hitherto observed by any man) the ends of the branches of the wind-pipe are in them perforated into the cavity of the belly, and do convey the air drawn in by breathing into certain membranes stretched out along the length thereof. So that in Birds the Lungs seem rather to be a way or passage to respiration, than the adequate organ thereof. But those membranes now mentioned (at least with the assistance of the Muscles of the belly) serve for respiration, and perform the office of the Midriff. This perforation of the Lungs is not obscure or hardly discernable, but so open and conspicuous, that in those of an* Ostrich *I have found many holes, that would easily admit the tips of my fingers. In a* Turkey, *and even the common* Dunghil-cock, *and almost all Birds, thrusting a Probe into the wind-pipe, you may find open passages out of the Lungs into the hollow of the belly. Air blown into their Lungs by bellows passes forcibly into the lower belly.* Now Birds have either no Midriff, or at least not such a musculous one as men and Quadrupeds; the forementioned membranes, supplying (as we said) the defect, and performing the office of a Midriff.

* *Lib. de Generat. Animal. Exercit.* 3.

The perforation of the Lungs.

The Craw, and its use. No Birds have more stomachs than one, unless you will take the *Craw* for a stomach: *which for the most part hangs without the trunk of the body, at the lower part of the neck before the breast, by the bone called the* Merry-thought. The use thereof seems to be to moisten and so to mollifie, macerate, and prepare the meat for the stomach. *Hence some Birds (*saith * D. *Harvey) do cast up the meat so macerated into the mouths of their young, and feed them therewith, (after the same manner as Quadrupeds nourish theirs with milk) as may be seen in the* Pigeon-kind, *and in Rooks.* Perchance also because the stomach, in such birds as have a musculous one, is not of capacity enough to receive and contain so much food as may suffice for the uses of the body; either in Winter-nights or long fasting, which for want of food by various accidents Birds are not rarely necessitated to undergo, the *Craw* is given them by nature for a Satchel wherein to store up plenty of food, when it is afforded, which afterwards it may little by little deliver over to the stomach.

* *De Generat. Animal. Exercit.* 7.

The Stomach or Gizzard, and its use. A *Gizzard* or stomach furnished with thick and strong muscles is proper to Birds, but not common to all sorts of them, for Rapacious and some piscivorous Birds have a membranous one. The use of the *Gizzard* seems to be for the grinding of hard meat, for example, *Wheat, Barley, Pease*, and other sorts of Corn and Pulse, which birds swallow whole; and so in granivorous birds to supply the defect of teeth. Which that it may the more effectually perform, these birds do now and then swallow small

Why Birds swallow stones

small pebble stones and sand or gravel, which together with their meat, they keep in their stomachs (no such thing mean time being found in their crops) by the help whereof the foresaid Muscles, as it were two mill-stones, bound fast together by their two hinges, do grind and levigate the grosser and harder meat, and so promote the digestion of it. *That this is so* (saith * Dr. *Harvey*) *appears in many sorts of birds : in whose Gizzards, if the small stones or other hard and rough things remain long, by their continual attrition they become so worn and smooth, that they are rendred unfit for the comminution of their meat, and are therefore cast out of the stomach as useless. Hence birds when they chuse out stones, they try them with their tongues, and if they find them not to be rough, they reject them. So have I found in the stomach of an* Ostrich, *and also of a* Cassoware *Iron, Silver, and stones much worn and almost consumed. Whereupon it is commonly reported and believed, that they concoct Iron, and are nourished therewith. If you lay your ear close to the bodies of* Falcons, Eagles, *and other* Birds of prey, *while their stomachs are empty you may perceive the manifest noise of the stones thereinto swallowed, striking one against another. For neither do* Hawks *for cooling their Bodies (as is the common error of Falconers) swallow stones, but for the comminution of their meat. In like manner other Birds, (especially such as have a fleshy stomach or gizzard for the grinding of their food) do for the same purpose swallow stones, gravel, or some such like thing, as we said before.*

* *De Generat. Animal. Exercit. 7.*

Birds of prey have a membranous stomach.

In terrestrial Birds of prey, and some piscivorous fowl, because they feed upon flesh, which easily melts and dissolves in the stomach (being softer than grain, and needing little grinding) at least is quickly macerated by its acid ferment, the stomach is rather membranous than musculous. For Birds of prey tear the flesh with their beaks, which disposes it to concoction. Whence also carnivorous Quadrupeds have serrate teeth, for tearing the flesh of their prey from the bones ; neither do they chew their meat much, as do tame beasts, and other herbivorous and granivorous Animals. It suffices them to tear it to small pieces, and by a chop or two of their teeth strongly to pinch, crush, or bruise it. For this kind of contusion disposes it to corruption, and perchance a more quick and speedy one, than if it were ground small by a long mastication.

The *Echinus* or Ante-stomach.

In many Birds the Gullet immediately above the stomach is dilated into a certain bag, as it were a liminary Ventricle, which they call *Echinus*, because in some birds it hath its inward Superficies rough with many excrescences ; in others it is only thick set, or as it were granulated with very many papillary glandules, out of which a mucilaginous juice is easily pressed : This juice being by these glandules excerned into the stomach, and there mingled with the meat, serves for a *Menstruum* to macerate, dissolve, and change it into Chyle.

The *Appendices* or blind guts

Most Birds have two blind guts or *Appendices*, as they call them : the *Heron-kind* have but one ; and the *Woodpecker-kind* none. Among such as have two, all carnivorous fowl, and all that we call *small birds*, have very small and short ones ; cloven-footed Water-fowl, of a mean length ; whole-footed Water-fowl, long ones ; and Poultry-kind, the longest of all. The *Appendices* in Birds have a contrary site to the blind guts in Quadrupeds. For in Quadrupeds the blind gut seems to be nothing else but the * *Colon*, continued or produced from the fundament upward, making acute Angles with the gut called *Ileum* ; but in Birds the *Appendices* descend from the stomach downwards toward the Fundament, making acute Angles with the gut called *Rectum*. What the use of these *Appendices* or blind guts in Birds and beasts may be, I confess my self not clearly as yet to understand.

* The Colic gut.

The single blind gut, called *ductus intestinalis*.

In most Birds we have about the middle of the guts observed a certain small *Appendix* or blind gut, like a little Worm, which is nothing else but the remainder of that passage by which the Yolk is conveyed into the guts of the young chicken. In some birds this is very conspicuous, being of half an Inch, or almost an Inches length : In others it is much shorter and smaller, and in some again it is wholly obliterated and disappears. The use of this passage Mr. *Nicolas Steno* did first find out, or at least first publish to the world the invention of. It is true indeed it was known to us before we saw his Book, I think we had the first notice of it from Dr. *Walter Needham*. However the glory of the Invention is of right due to him, who first communicated it to the world. *Aristotle*, *Fabricius ab Aquapendente*, Dr. *Harvey*, and others, have observed a great part of the Yolk to remain in the Chickens belly after exclusion, yet did they not know that it was by this passage as it were by a funnel conveyed into the guts, but thought that by the mediation of capillary veins dispersed through it, it was by degrees liquefied, and received immediately into the bloud.

The Yolk how conveyed into the guts.

The

The outlet of the channel from the Gaul to the guts in moſt Birds is a great way diſtant from the ſtomach: becauſe (ſay ſome) they do not make water, and ſo there is more fluid matter mingled with their Excrements. For the uſe of the Gaul is partly to attenuate and make fluid the Excrements, partly by its acrimony to ſtimulate th guts, and provoke Excretion. But upon this account there ſhould rather be leſs need of Gaul, Birds therefore being now known to have large reins, and to avoid Urine with their harder Excrements; their Excrements alſo, excepting thoſe of the carnivorous kind, being not very fluid, conſidering the quantity of Urine mingled with them, perchance the Gaul-channel may enter the gut at ſuch diſtance from the ſtomach, for no other reaſon than leſt the Gaul ſhould regurgitate into it. In very many Birds the paſſage from the Gaul-bladder and the * *Porus bilarius* do not concur in one common channel, but penetrate the gut ſeverally at a good diſtance the one from the other.

The paſſage of the Gaul to the guts

The uſe of the Gaul.

* The pipe that carries the Gaul from the Liver to the Guts.

All Birds though they want a bladder for Urine, yet have they large reins and ureters by which the Urine is carried away. *Birds* (ſaith * Dr. *Harvey*) *and Serpents, which have ſpungy lungs, make but little ſtore of water, becauſe they drink but little, and that by ſipping; and ſome of them, as* Eagles, *not at all: and therefore they have no need of a bladder; but their Urine diſtils down into the common ſewer or ſink* [Cloaca] *deſigned alſo for receiving the Excrements of the belly, and being therewith mingled, both are caſt out together. This Urine of Birds differs from that of other Animals: for whereas there are in Urine two parts, one more ſerous and liquid, the other more thick and groſs, which is called the ſediment* [hypoſtaſis] *and ſubſides or ſettles to the bottom, when the Urine is cool. Birds (contrary to viviparous Animals) have the greateſt quantity of this thick part, which is diſtinguiſhed from the other by its white or ſilver colour, and found not only in the common ſink (where it abounds) and daubs or ſmears over the excrements of the belly, but in the whole channel of the Ureters, which may be diſtinguiſhed from the coats of the Kidneys by this whiteneſs. Neither is this groſſer matter deſcending from the reins to be ſeen in Birds alone, but alſo in Serpents, and other oviparous Animals; eſpecially thoſe whoſe Egg is covered with a hard ſhell. They have alſo greater plenty of this than of the more ſerous and thin part; which is of a middle conſiſtence between thick urine and dung; ſo that paſſing through the Ureters it reſembles milk curdled or lightly condenſed; and being caſt forth eaſily congeales into a friable cruſt.* See more of this matter in *Harvey, De Generat. Animal. Exercit.* 11. The Ancients taking it for granted that Birds make no Urine, aſſigned this reaſon thereof, *That all the ſuperfluous moiſture was ſpent in nouriſhing the feathers.*

Birds have large Kidneys and Ureters.

* *Of the Generat. of Animals. Exercit.* 7.

Two parts in Urine.

All Birds that I have hitherto diſſected have a double *Pancreas*, which ſome call the *Sweet-bread*, in Quadrupeds.

The Pancreas.

The ſtones of Cock-birds are deeply withdrawn within the cavity of the body, being faſtned to the back juſt beneath the Liver. In the Spring time when they are full of Sperm they ſwell to twice or thrice the bigneſs they are of in the Winter.

The Teſticles.

In ſome whole-footed broad-billed birds and *Divers* the Windpipe ends in a kind of Veſſel made up of bones and intermediate membranes, being in divers birds of a different figure; from which ariſe the two branches going to each ſide of the Lungs. The bones give the figure and conſiſtency to this Veſſel, as do the Ribs to the Breaſt, and the annulary Cartilages to the Windpipe. In ſome birds this Veſſel is made up wholly of bone, as in *wild Ducks*, without any void ſpaces to be filled and cloſed up with membranes. This Veſſel from the windings of its internal Cavity we are wont to call a *Labyrinth*. What the uſe thereof is, whether to increaſe the force of the Voice, or for a receptacle to contain Air, which may ſerve them while they dive, to enable them to continue longer under water, or to perform both theſe offices, or for neither of them, we do not as yet certainly know. That it doth not ſerve to intend the Voice, may be gathered from that ſome Birds of this Tribe that want it, have a ſhrill and vehement Voice. And that it doth not conduce to diving, may be inferred from that the Douckers (*Colymbi*) which of all birds dive moſt, and continue longeſt under water, want it. Since the writing of this we have been aſſured by an * ingenious obſerver of what we did indeed ſuſpect before, but were not very confident of, *viz.* That theſe Veſſels are proper only to the Cocks in the broad-billed or Duck-kind; but in the Divers [*Mergi*] common to both ſexes, at leaſt if we be not miſtaken in our opinion of the difference of ſex in thoſe Birds; what we take to differ only in ſex, differing ſpecifically.

The veſſel of the Windpipe, or Labyrinth.

* Mr. *Dent*, Apothecary in *Cambridge*.

Chap. III.

Of the Generation of Birds.

The Eggs of Birds.

ALL Birds are oviparous, that is bring forth Eggs, and not live Young. This though it be common to Serpents, Fishes, and Insects; yet in Birds the figure of the Eggs, and the brittleness of the Shell, and the distinction of White and Yolk, and the manner of Incubation are peculiar. The Eggs of all Birds, if the exteriour bark be pilled off, are white.

Hen-birds have from the beginning all the Eggs they afterwards lay.

It is most probable, that Hen-birds have within them from their first formation all the Eggs, they shall afterward lay throughout their whole lifes time; so that when their cluster of Eggs is wholly spent, they cease breeding, and become effete: as *Angelus Abbatius* hath observed of Vipers. For we our selves have found in Birds that breed only once, or at most but twice in a year, a lump of seed-eggs (as I may call them) enough to serve them for many years productions. Seeing then it is certain that some birds do become † effete with age, and that all of them have at all times of the year a considerable mass of Eggs within their bodies, I think we do not without reason thence infer, that all the Eggs they shall ever lay are connate with them. I am not ignorant that * Dr. *Harvey* doth assert, that though a Hen hath no seed-eggs within her, yet after coition she will breed new ones. But I think that Great Naturalist did not sufficiently consider or examine this matter, and therefore he doth only touch it obliquely, and by the by. For he together with *Fabricius* doth confess that there are in the † *Ovaria* of Hens, and almost all other oviparous Animals an innumerable multitude of Eggs of divers growths from an almost invisible quantity to the consummate magnitude. Now why should Nature prepare so great a stock of Yolks (which as we said would suffice for many years births) if she had given to females a faculty of generating new ones. Neither is it true only of Birds, but also of all female Quadrupeds, yea, and of women themselves, that they have in them from the beginning the Eggs or seeds of all the conceptions, they shall afterwards bring forth through their whole lives. For those two bodies in Females that are wont to be called Testicles, are nothing else but two * *Ovaria*, as will manifestly appear to any one that will but take the pains to dissect them, made up of very many Eggs of different magnitude, all which being either brought forth, or by any means marred and corrupted, that female ceases to bear, neither doth there remain to her any further hope of generation.

† Past bearing

* *De Generat. Animal. Exercit.* 29.

† Egg-clusters or knots of Eggs.

Testes fœminei Ovaria esse.

* Clusters or knots of Eggs.

The parts of an Egg.

The parts of an Egg are, 1. The *Shell*; which hardens in the very womb, before the Egg be laid; contrary to what *Aristotle*, *Pliny*, and *Fabricius ab Aquapendente* following them, have delivered. And this any one may with his fingers easily try in a Hen with egg ready to lay; or if he dare not trust his fingers, let him but open the Hens belly, and his eyes will convince him of the truth of what we say. But if any one wants either opportunity or will to make trial, let him consult the eleventh *Exercitation* of Dr. *Harveys* Book of the *Generation* of *Animals*, and he will there find it clearly demonstrated. "2. *Four membranes*, two exteriour, which begirt and embrace "the outer White, one interiour which contains the Yolk, and a fourth middlemost, "which encompasses the inner White. 3. *A twofold White*, which Dr. *Harvey* first ob- "served in a Hens Egg, both involved in their proper membranes, the one thinner "and more liquid, the other thicker and more clammy, and a little more inclining to "whiteness; in staler Eggs after some days incubation growing yellowish. As this "second White covers the Yolk round, so that exteriour liquor encompasses it. That "both these Whites are distinct is even from hence manifest: The outward bark or "shell being taken away, if you pierce both the subjacent membranes you shall see "the exteriour liquid White forthwith flow out. Then turning back the said mem- "branes this way and that way into the Platter (in which the Egg is supposed to lie) "the interiour and thicker White will still retain its place and globose figure, *viz.* be- "ing terminated by its proper membrane, which is so thin that it is altogether invi- "sible to the eye. This if you cut, the second White will straitway run out, and "diffuse it self this way and that way, and lose its round figure, just as any liquor "runs out of a bladder containing it, when it is cut. Then the proper membrane of "the Yolk broken, the Saffron-coloured liquor flows out, and the former globosity "subsides [or sinks.] 4. *The Yolk*, of which see Dr. *Harveys* Book of the *Ge-* "*neration of Animals*, *Exercit.* 12. 5. *Two Treddles*, one in the acute, the other in "the obtuse Angle. The greater part of them is within the *White*, yet do they stick "fast

1. The Shell.

2. Four Membranes.

3. A double White.

4. The Yolk.

5. Two Treddles.

" fast to the Yolk, being hung upon its membrane. They are oblong bodies, more " concrete than the White, and also whiter, knotty, and not without some bright- " ness, wherein they resemble Hail, whence they took their name [*Chalazæ.*] For " each Treddle consists as it were of many hail-stones joyned together by the " White. The one of these is greater, and stretched out further from the Yolk to- " wards the obtuse end of the Egg: The other is less, extended from the Yolk down- " wards toward the acute part. The greater is made up of two or three knots, as it " were hailstones, standing at a moderate distance one from the other, the lesser in " order succeeding the greater. These Treddles are found in all the Eggs of all birds, " as well * subventaneous as fecund. Whence appears the common mistake of our " Housewives, who think that the *Treddles* [*Grandines*] are the Cocks Sperm, and " that the Chicken is formed of them. [This is a mistake not of old Women or common People only, but also of great Physicians and Naturalists, as *Hieronymus Fabricius ab Aquapendente*, in his book of the *Formation of the Egg and Chicken*, and *Joannes Faber* in his excellent Expositions of some Pictures of *Mexican Animals* of *Recchus*. His words are these: *Which I long ago most diligently observed before I heard of* Aquapendentes *work, to wit, that the Chicken hath its first rise or original from the Treddle, which the* Italians *call* La Galladura; *the* Germans *most fitly* Den vogel, *that is*, the bird, *because the bird is bred or formed of it. This part is situate between the Yolk and the White in the likeness of a hailstone or pretty great oblong Pearl, and is of a substance somewhat different from the White*, viz. *more hard and tough, which therefore our Cooks and Housewives, when they mingle Eggs with Broths, Cawdles, or any other liquid meat, are wont to separate and take carefully away, as which with much beating can hardly be dissolved, unless you put Salt, or Sugar, or Vinegar to it.*] " The use of these is to " be as it were the Poles of this * Microcosm, and the connexions of all the mem- " branes twisted and knit together, by which the liquors are not only conserved each " in its place, but do also retain their due position one to another. 6. *A very small* " *white circle*, growing or sticking to the coat of the Yolk, as it were a *little scar*: " which therefore *Fabricius* named *Cicatricula*. This speck is very little, scarce so big " as a Lentil, resembling the pupil of a small bird, white, plain, and circular: and " (which is especially to be noted) is in all Eggs from their first original in the * *Vi-* " *tellarium*. This is the principal part of the whole Egg, for the sake whereof all the " rest are formed, and out of which the Chicken hath its first original. Thus far *Harvey*.

* *wind-egg.*

The use of the Treddles.

* *Little world.*

6. The *cicatricula* or eye of the Egg.

The *Cicatricula.*

* The cluster of Yolks.

The stalks of Eggs, whereby they grow to the *Ovarium*, are not solid after the manner of the footstalks of fruits, but hollow and fistulous.

The stalk of the Egg.

Eggs, if you press them between your hands longways, are very hardly and not without much force broken.

Eggs violently shaken, till the Yolk and White be mingled, the containing membranes being broken, may be set upright upon the blunt end, which otherwise the Yolk and White remaining entire can very hardly be so erected. For the Yolk being suspended between the Treddles, hangs quavering, and by the least motion or inclination vibrates to and fro within the Egg, and changing the center of gravity, hinders its erection.

Eggs how to set on end.

Eggs being macerated in Vinegar their Shels will be dissolved, so that they may be thrust into a narrow-mouthed Vessel, or drawn through a Ring.

Egg-shels dissolved in Vinegar.

Whereas there is in Eggs a double liquor, *Yolk* and *White*, the Chicken is formed out of, and nourished by the White alone, till it be grown great. The Yolk serves for the Chickens nourishment after it is well grown, and partly also after it is hatched. For a good part of the Yolk remains after exclusion, being received into the Chickens belly; and being there reserved as in a store-house, is by the formerly mentioned channel, as it were by a funnel, conveyed into the guts, and serves instead of milk. For whereas viviparous Animals are furnished with milk, wherewith to nourish their tender young, till by degrees they are accustomed to and grow able to bear firmer and harder meat; in birds, which want Paps and milk, Nature, Gods handmaid, hath provided and laid up in the middle of the Egg the Yolk for the nourishment of their newly hatched young. Dr. *Harvey* confirms this in *Exercitat.* 53. of his book of the *Generation of Animals*. *The White* (saith he) *is first spent, the Yolk comes not for food till late, and is to Chickens newly hatcht what milk is to viviparous Animals newly brought forth: that what kind of nourishment Nature affords by the Paps in viviparous Animals, the like in oviparous she may confer by the Yolk. Whence it comes to pass, that all the White being consumed, the Yolk remains almost entire in the Egg,*

The Chicken is formed of the White of the Egg.

The Yolk supplies the room of milk.

when the Chicken is now perfect and consummate, and part of it a long time after its exclusion: for even after six weeks we have seen somewhat of it remaining in the belly of the Chicken, sticking to the guts.

The young is in the *Cicatricula* before incubation.

Whereas we said the *fœtus* is formed of the *White*, by *White* we do not mean any part of the *White* indifferently, but the purer and more lucid part, contained in the little bubble or bladder, called the *Cicatricula*, in which the Chick is originally formed. Yea, the deservedly famous, and most sagacious searcher out of the secrets of Nature, * *Marcellus Malpighius*, hath observed the first strokes or rude draught of the *Embryon* in the *Cicatricula*, even before incubation, as the young plant in the Seed, which is the Egg of the Plant. And which is yet more, he hath observed even in subventaneous Eggs something in the *Cicatricula* like to a *Mola* or false Conception. Dr. *Harvey* seems not to be constant in his opinion about the formation and nutrition of the Chicken in the Egg. For in some places he asserts, that it is both originally formed of, and also nourished by both liquors, I mean, the Yolk and White; as for example, in the 36. *Excercitation*, where he hath these words: *Indeed from the course of the umbilical veins, and the distribution of their branches, which without doubt serve for drawing in nourishment, it doth manifestly appear, that the constitutive matter and nourishment of the Embryon-chicken is supplied as well from the Yolk as from the White, and that liquor called by us the* Colliquamentum *seems to be made up no less of the Yolk than the White: for something of both humours doth melt or dissolve into that liquor. Moreover, the speck out of which dilated the* Colliquamentum *is first made, and which is called by us the* eye *of the* Egg, *is impressed on, or sticks to the Tunicle of the Yolk.* Elsewhere he affirms that the Chicken is first nourished by the liquor of the *Colliquamentum*, than by that of the thinner White, afterward that of the thicker, and last of all of the Yolk. *Exercit.* 21. *After the tenth day the greatest part of the White is spent upon the* Colliquamentum, *and thence upon the* * fœtus, *to wit, the whole thin White, and the greater part of the thicker. But the Yolk appears larger than it was at first. Whence it is evident, that the Yolk doth not as yet serve for nutrition, but is afterwards deputed to that office. And as far as I could gather from the progress* [ductu] *and distribution of the veins, the* fœtus *from the very beginning is nourished by the* Colliquamentum, *for that the veins are at first disseminated in that only, then spread into the membrane of the thinner White, and afterward into the thicker White and the Yolk.*

* *Tractatu de Ovo.*

* The Embryon bird.

Viviparous Animals bred of Eggs.

All Animals come of Eggs, as well those called *viviparous* as *oviparous:* For the females of the viviparous have Eggs within them, though they do not bring them forth. To wit, those two bodies, commonly called *female testicles*, are nothing else (as we said before) but knots or masses of very small Eggs, as will manifestly appear to any one that shall dissect them; so that we cannot but wonder that a thing so plain and evident should so long escape the observation of the curious and inquisitive eyes of ancient and modern Anatomists. This difference there is between the Eggs of oviparous and viviparous Animals (understand it of terrestrial) that these seem to consist of one liquor, *viz.* the White only, whereas those contain two or three several ones. Yea, if we consider the matter more exactly, we shall I think find, that the Seeds or Eggs of viviparous Creatures do indeed answer to the *Cicatriculæ* of Eggs, in which from the beginning the young [*fœtus*] is included. For the Yolk (as we said) is given to birds instead of milk: and the Egg of a viviparous Creature imbibes out of the womb a liquor Analogous to the White of Eggs. For the Egg after coition being made fecund, falls down into the womb, in like manner as the ripe fruit or Seed falls from the tree or herb upon the earth, and there semblably imbibes the humour, wherewith the enclosed *fœtus* is nourished. Then after a certain space of time it fastens it self to the womb, and after the manner of Seed fallen upon the ground, doth as it were strike root into it.

The falsely supposed Testicles of Females are masses of Eggs.

* *Sitting upon Eggs.*
† *Going with young.*

The * *Incubation* of *oviparous* Creatures is equivalent to the † *gestation* of *viviparous*, for in both the Eggs are alike kept warm, in this inwardly in the womb, in that outwardly under the wings, to the time of birth or exclusion; when the young being now grown great, and desiring the free air, breaks the involving Teguments, and comes forth into the light. Now an Egg is not unfitly called an *exposed womb*, for that it doth after the same manner administer nourishment to the *fœtus* in oviparous Animals, as the womb doth in viviparous.

Incubation answers to Gestation.

Spurious Birds bred by anomalous mixtures.

As other Creatures, so it is not to be doubted but Birds also of divers kinds do sometimes couple together, and mingle their Seed, from whence proceeds a third and spurious production, which partakes of both kinds; which yet I suppose doth not generate its like: For otherwise the number of Species in Birds would have been ere now

now almoſt infinitely increaſed. So although in the *Genus* of Quadrupeds a Mule be engendred by the coupling of an Aſs and a Mare; yet for a Mule to bring forth young was wont to be counted a Prodigy. This anomalous coition is exerciſed between Birds like to one another, as being of the ſame Tribe, eſpecially between Hawks and other Birds of prey of different *Species*; partly becauſe theſe *Species* are very like one to another, partly becauſe they are all very ſalacious.

Hens will breed and lay Eggs without being ever trodden by the Cock.

It is wonderful which we dayly experience in *Hens*, *viz.* that they will breed and lay Eggs without ever being trodden by the Cock, which Eggs though they ſeem to be every way perfect yet are they infœcund, called by the Greeks, ὑπωέμια, and ἀεμνὰ, and ζεφυρινὰ, that is, ſubventaneous or wind-eggs, or if the Hens were impregnated therewith by the wind. Neither do Hens only, but other Birds alſo, eſpecially ſuch as are ſalacious, in the Spring time when they are full of luſt, if they be gently ſtroked on the back, or their Genitals handled, ſometimes lay Eggs without the Cock. *They are* (ſaith D. *Harvey*) *ſometimes ſo libidinous, that if you do but lightly touch their backs with your hand, they preſently lie down, and denude the Orifice of the Womb, which if you gently ſtroke with your finger, by an incondite murmur, and the geſticulation of their wings, they expreſs their grateful ſenſe of the pleaſure they take therein. Moreover, that Hen-birds will thence conceive Eggs both* Ariſtotle *affirms, and my ſelf have experienced in a Thruſh, a Blackbird, and other birds, and did a great while ſince at firſt find out accidentally, and by my own loſs.* "My Wife did for a long time keep a "notable Parrot that had learned to ſpeak very prettily, wherein ſhe took great de- "light. This bird was ſo tame and familiar, that it went freely up and down the houſe "whither ſoever it liſted; it would ſearch out its Miſtreſs when ſhe was abſent, and "when it had found her, with a chearful voice it would as it were ſalute her, and "ſignifie its joy: When ſhe called, it would anſwer her, and fly to her, and taking "hold of her Garment with its beak and feet alternately, it would climb up to the "top of her ſhoulder, and thence deſcending down her arm, it would at laſt ſettle "it ſelf upon her hand. Bidden to ſpeak or ſing, though it were by night, or in the "dark, it would obey. Many times it would ſportingly and wantonly come up in- "to her lap as ſhe ſate, and was much pleaſed to have its head rubb'd, and its back "ſtroked; and by ſhaking its wings, and its flattering note, teſtified the great plea- "ſure it took in thoſe careſſes and touches. I interpreted all theſe things to proceed "from its wonted familiarity and obſequiouſneſs: for by reaſon of the excellency of "its ſpeaking and ſinging, I took it to be a Cock. For among birds females ſeldom uſe "to ſing or ſpeak much: but we have obſerved, that generally the Cocks do by the "ſweet modulation of their voice and harmonious accents endeavour to delight the "Hens, and allure them to ſubmit to their embraces.

Cock-birds ſing and not Hens.

"Not long after theſe grateful contrectations, the Parrot (which for many years "had lived healthfully) fell ſick, and after many convulſions at laſt expired in the "Lap of its Miſtreſs, in which it had ſo often ſported. Cutting up its Carcaſs (that "I might ſearch out the cauſe of its death) I found an Egg almoſt perfect in the "womb, but for want of a Cock, corrupted, as it happens often to ſmall birds ſhut up "in Cages, which want the company of the Cock.

Many birds then by how much the more ſalacious they are, by ſo much the more fruitful be they, and do ſometimes without the Male (by reaſon of high-feeding, or ſome other cauſe) conceive Eggs, but ſeldom without his concurrence either perfect them, or bring them forth; but do rather thereupon fall into grievous diſeaſes, and at laſt die.

Hens by being once trodden will lay prolific Eggs for a year after.

Perchance it may ſeem to ſome not leſs wonderful, that by once treading of the Cock, all the Eggs which a Hen ſhall lay for a whole year after will be rendred prolific. *Fabricius*, as he is cited by * Dr. *Harvey*, ſaith, *That it is moſt true, that there proceeds from the Seed of the Cock a vertue; which renders prolific not only all the Eggs, but alſo the womb, appears from the ordinary practice of poor women, who keeping a Hen without a Cock, do for a day or two put it to ſome of their neighbours Cocks: For from that little time of companying with the Cock all the Eggs of that whole year ſucceeding will be rendred prolific. And I* (ſaith Dr. *Harvey*) (*that I might defend* Fabricius, *and find out ſomething certain concerning the time and neceſſity of this prolific coition*) *did once in the Spring time keep two Hens for three days ſhut up from the Cock, each of which did in the mean time lay three Eggs, no leſs prolific than any others: And again another Hen, which laid one Egg the tenth day after ſhe was ſhut up, and another the twentieth, and both fecund. So that it ſeems one or two Coits may make the whole cluſter of Eggs, at leaſt as many as ſhall be laid for a whole year fruitful.* What follows I ſuppoſe he wrote upon preſumption, and not from experience, viz. *That though a Hen hath no Seed-eggs*

* *De generat. Animal. Exer. 6*

prepared

* Cluſter of Yolks.

† Knot or cluſter of Eggs

prepared in the * Vitellarium, *yet being after coition made fœcund, ſhe will ſhortly breed and lay new ones, and thoſe alſo fruitful. For not only thoſe Eggs which are as yet Yolks and want Whites, or whoſe ſmalleſt ſeeds and rudiments are already in the* † Ovarium, *but thoſe alſo which are not yet begun but ſhall be conceived a long time after, are by the ſame virtue made fecund.* The ſame ſenſe he repeats in other words about the end of *Exercit.* 40. *If from under a Hen once rendred prolific and ſitting upon Eggs (after ſhe hath laid all her Eggs, none remaining in the* Ovarium) *you take away all her Eggs, ſhe will anew breed and lay more, and thoſe alſo prolific.* I ſuppoſe this great Naturaliſt was miſtaken in that he affirms, that a Hen after ſhe hath laid all her Eggs, and there be none remaining in the *Ovarium*, will breed new ones. For I do not ſee how he could make any experiment hereof: Seeing that if he had opened a ſitting Hen, and had found no Eggs within her, how could he certainly know that ſhe would have bred new ones had ſhe lived? If he thought that all Clock-hens do lay all their Eggs, and quite empty the *Vitellarium*, before they begin to clock and betake themſelves to ſitting; he was therein ſurely miſtaken. For I ſee no reaſon why that ſhould be true in Hens, which I have by experience found falſe in other birds; eſpecially ſeeing himſelf confeſſes, that there are in Hens as well as other Birds an almoſt infinite number of Yolks in the *Ovarium* of divers growths, from an almoſt inviſible quantity to the conſummate magnitude.

Timid and ſhort-lived Animals have numerous young, or elſe breed oft, or both.

To theſe we ſhall add that obſervation of Dr. *Harvey* in *Exercit.* 59. *de generat. Animal.* Nature hath for the moſt part given numerous young to thoſe Animals, which being of little ſtrength or courage, can hardly defend themſelves from the injuries of others, and ſo compenſates the brevity of their lives with a plentiful offſpring. *Nature* (ſaith *Pliny*) *hath given this to the Bird-kind, that thoſe of them ſhould be moſt fruitful, which are moſt cowardly or fugacious.* For whereas generation in all Creatures is inſtituted by Nature for perpetuities ſake, it is more frequent in thoſe that are of ſhorter life and obnoxious to external injuries, leſt the *Species* ſhould fail. And therefore Birds that excel in ſtrength and live by ravine, and ſo enjoy a longer and more ſecure life do ſeldom lay more than two Eggs at once. It is true indeed that *Pigeons*, *Turtles*, and *Ring-doves* do ſit only upon two Eggs at once: but then they compenſate the defect of number by the frequency of laying; they breeding ten times a year. Therefore they breed much, though not many at a time.

Chap. IV.

Of the Age of Birds.

Birds are longer-lived than Quadrupeds.

OF all ſanguineous and hot Animals Birds are the longeſt lived, for the proportion of their bodies much more vivacious than Quadrupeds. *Swans* are ſaid to attain to the age even of three hundred years. We have been aſſured by

A Gooſe 80 years old.

a friend of ours, a perſon of very good credit, that his Father kept a *Gooſe* known to be fourſcore years of age, and as yet ſound and luſty, and like enough to have lived many years longer, had he not been forced to kill her for her miſchievouſneſs, worrying and deſtroying the young Geeſe and Goſlings. Moreover, the *Pelican* that

A Pelican of the ſame age.

was kept at *Mechlin* in *Brabant*, in the Emperour *Maximilians* time, was certainly believed to be fourſcore years old. What is reported of the age of *Eagles* and *Ravens*, although it exceeds all belief, yet doth it evince that thoſe birds are very long-

* *Ornithol. tom.* 2. *p.* 370.

lived. Our people (ſaith *Albertus* as he is quoted by * *Aldrovandus*) have found by experience, that a Pigeon lives twenty years. And as for tame Pigeons (ſaith *Aldrovandus*) *a certain Perſon, worthy to be believed, and not unskilful in Natural Hiſtory, related to me, that he had been told by his Father, who was much delighted in keeping and obſerving Pigeons and other birds: That he had kept a Pigeon two and twenty years, and that it bred all the while, except the laſt ſix months, in which leaving its Mate, it made choice of a ſingle life.*

A Linnet of 14 years.

But to let paſs great birds, even the very ſmalleſt birds live a great while. We our ſelves knew a *Linnet* kept at leaſt fourteen years in a Cage, which as yet ſhewed no ſigns of decay or old age. *Geſner* tells us, that a certain Kinſman of his wrote to

A Goldfinch of 23 years.

him concerning a *Goldfinch* to this purpoſe: *The* Goldfinch *lives above twenty years. For at* Mentz *when I was a child, I ſaw one more than twenty three years old, whoſe Bill and Claws were cut every Week, that ſo it might take its meat and drink, and ſtand in its place.* And there is no doubt but birds that enjoy their liberty, living at large in the

the open air, and using their natural and proper food, in gathering of which they also exercise their bodies, live much longer than those that are imprisoned in houses and Cages.

What *Pliny* observes of Animals, to wit, that those that live longest are born longest in the womb, is to be understood of Animals of the same kind. For if Animals of different kinds be compared together, as for example Birds with Beasts, those will sometimes be found to be most vivacious which are born the least while in the womb. If it be objected, that Birds and Beasts cannot in this respect be compared together, because Birds are not at all born in the womb. We answer, that incubation in Birds is equivalent to gestation in Quadrupeds: For in both the Eggs are cherished alike, in this inwardly in the Womb, in that outwardly under the Wings, as we have formerly shewn.

How far it holds true, that those are longest lived which are longest in the womb.

Chap. V.

Of some Proprieties and Accidents of Birds, viz. *Shape, Bigness, Colour, natural Instincts, Manners*, &c.

THE trunk of the body is shorter, broader, and thicker in Birds than in Quadrupeds: the head for the proportion of the body much less. For whereas Birds pass through the air, almost after the same manner that Ships swim upon the water, the Trunk of their body answers to the Hull of the Ship, their head to the Prow, (which also for its similitude is called in Latine *Rostrum*, [the beak] of a Ship) their tail to the Rudder, their breast to the Keel, their wings to the Sails and Oars: whence the Poet elegantly hath it, *Remigium alarum*, [the rowing of the wings.]

The figure of the body in Birds.

All winged Fowl in general are lesser than Quadrupeds, that is the greatest in that kind than the greatest in this. Whence I esteem what is reported of the bird called *Ruk*, and also of the *Cuntur* to be false, *viz.* "That its Wings spread reach fifteen or "sixteen feet; that its Bill is so hard and strong, that it will pierce an Oxes Hide. [It "is said to be covered with black and white feathers mixt, to have an even Comb, "or crest like a Rasor, not serrate like a Cocks. Two of these birds (they say) are "able to kill and eat up a Cow, neither do they abstain from men. There are but "few of them; were there many, they would destroy all the Cattel in *Peru*. They "report that there are four distinct kinds hereof found in the Island *Marignan*. *De Laet. Hist. Ind. Occident. lib.*16. *cap.*13. and *Lerius in Hist. Brasil.*]

Beasts in their kind greater than Birds. Description of the Bird *Cuntur*.

Birds of one and the same kind kept tame, by reason of the diversity of the Climate or Country in which they live, the food which they use, and other accidents, vary much in their colours, magnitude, taste of their flesh, and perchance also figure of their bodies. Wild fowl for the most part are much what of the same magnitude, and constant to their colours. For the most part, I say, this holds true in wild Birds, yet some few there be of these that vary much in their colours, as for example, *Ruffes*, of which it is reported there cannot be found two alike, and the *Scaup-duck*.

Tame Birds of the same kind are of different colours, &c. wild constant to the same.

The nails, or claws, hair, horns, and the like (saith *Aristotle*) *in Beasts spring out of the skin, whence it comes to pass that they change colour together with the skin, being white, or black, or party-coloured*, &c. *according to the colour of the skin out of which they grow. But the matter is far otherwise in Birds of all sorts: for of what colour soever the feathers are, the skin underneath out of which they grow is but of one colour. Moreover, one and the same feather is sometimes stained with divers colours, and in a wonderful order.* Dr. *Harvey*.

Of Birds some are gregarious, that is, live and fly together in companies or flocks, as for example, *Pigeons*, *Rooks*, *Stares*, &c. Others in coupling and breeding time fly by pairs, the Male and his Female: After they have hatcht they company with their brood, till their young be grown up and can shift for themselves, and then they beat them away.

Birds some gregarious, some fly by pairs, &c.

Some Birds live a Conjugal life, one Cock and one Hen pairing together, and both concurring and assisting each other in sitting and feeding their young. Of this sort are *Partridges*, and other Birds of the *Poultry* kind. *Pigeons*, of which the Cock takes his turn of sitting, building the nest, and feeding the young. In those that pair, there are always more Males than Females bred; but in such whereof one Male suffices for many Females, more Females than Males.

Birds pair together, imitating a Conjugal life.

Most

Birds sleep with their head under their wing, and standing on one foot, Natural instincts in Birds.

Most Birds while they sleep turn their head backward, and put it under their wing; and also stand upon one foot, the other being drawn up, to keep it warm, as I suppose, among the feathers, or by the heat of the body.

That there are in Animals those they call natural instincts, the manner of building their Nests in Birds is alone sufficient to evince. For whereas those of the same *Species* in Countries most remote and distant from each other do make their Nests always of the same materials, and constantly observe the same shape or form of them, as if they made them by the same pattern, they must necessarily either learn so to do by institution, or imitation of their Parents, or else have the knowledge or ability so to do by natural instinct: but neither by institution, for who ever saw the old or the young teaching or learning of one another? Nor by imitation, for the young forsake the Nests so soon as they are fledg'd; when as they are very simple and witless, and neither regard nor heed almost any thing but their food: and themselves next Spring building they could neither see their Parents making their Nests, nor any other birds of their kind, whom they might imitate. It remains therefore that they act by instinct.

Admirable instincts of Birds.

And here we cannot but admire, with Harvey, *some of these natural instincts in Birds,* viz. *that almost all Hen-birds should with such diligence and patience sit upon their Nests night and day for a long time together, macerating and almost starving themselves to death; that they should expose themselves to such dangers in defence of their Eggs: and if, being constrained they sometimes leave them a little while, with such earnestness hasten back again to them and cover them? Ducks and Geese while they are absent for a little while diligently cover up their Eggs with straw. With what courage and magnanimity do even the most cowardly birds defend their Eggs, which sometimes are subventaneous and addle, or not their own, or even artificial ones? Stupendious in truth is the love of birds to a dull and liveless Egg, and which is not likely with the least profit or pleasure to recompense so great pains and care. Who can but admire that passionate affection or rather fury of a clocking Hen, which cannot be extinguished unless she be drencht in cold water? During this* impetus *of mind, she neglects all things, and as if she were in a frenzy, lets down her Wings, and bristles up her Feathers, and walks up and down restless and querulous, puts other Hens off their Nests, searching every where for Eggs to sit upon; neither doth she give over till she hath either found Eggs to sit, or Chickens to bring up: which she doth with wonderful zeal and passion, call together, cherish, feed, and defend. What a pretty ridiculous spectacle is it, to see a Hen following a bastard brood of young Ducklings (which she hath hatched for her own) swimming in the water? How she often compasses the place, sometimes venturing in, not without danger, as far as she can wade, and calls upon them, using all her art and industry to allure them to her.*

The affection of Birds to their Eggs and Young.

All Birds in coupling and breeding time are most loquacious and canorous.

Birds come to their growth sooner than Quadrupeds.

Birds grow much faster, and sooner attain their just magnitude than Quadrupeds. Those that are fed by the old ones with meat put into their mouths, in a month or six weeks space almost all of them, and some in much less time become fit to fly, and attain to very near the measure of bigness due to their kind. All of them in six months come to their full growth and perfection. Neither yet is this in them, as in Quadrupeds, a sign of short life.

Birds very ingenious.

Many Birds are very ingenious and docile, as may appear from that they are so easily taught to imitate mans voice, and speak articulately: which no Quadruped (for ought I have heard or read) could ever be brought to; though their Organs seem to be much fitter for that purpose, as being much more conformable to mans.

Chap. VI.

Containing some particulars which Mr. Willughby *propounded to himself to enquire out, observe, and experiment in Birds.*

1. WHether Rapacious diurnal Birds only have the upper Chap of their Bills covered as far as the nosthrils with a naked skin, which our Falconers call the *Sear?*

2. Whether the *Parrot* only moves the upper Chap? as *Aldrovandus* affirms; and whether the *Cross-bill*, which doth in like manner make use of her Bill for climbing, and some other birds, do not so too?

3. Whether any Birds change their Bills and Claws, as is reported of the *Eagle?*

Answ. What is reported of the *Eagle* in this kind I doubt not but it is false. Neither do I think that any bird casts its Bill by age. Wherefore that Translation of the *fifth verse* of *Psalm* 103. which in the common *English metre* runs thus, *Like as the Eagle casts her bill, whereby her age reneweth*, ought to be mended. For many of the more ignorant sort have hereby been imposed upon, believing these to be the words or sense of the Scripture in this place; whereas there is no such thing in the Text mentioned as the *Eagles casting her Bill*; the words being only these, *Thy youth shall be renewed like the Eagles.* But that the hook of the Bill may, and sometimes doth, in *Eagles* and other birds by extreme old age grow so immoderately, as to hinder their feeding, I deny not. For the *Goldfinch*, we mentioned before, is hereof a sufficient instance.

4. How many Birds have an angular *Appendix*, as it were a Tooth, on each side the upper Chap of their Bills, as the *Kestrel*, the *Hobby*, the *Butcher-bird*, &c?

5. The Commissure of the legs or tines of the lower Mandible, in what birds it is round, in what angular?

6. Whether the Eyes of all Birds of the same Species are always of the same colour?

Answ. The *Irides* of the Eyes in young and old birds do often differ; and sometimes also in the Cocks and Hens. But whether in old birds of the same Sex they differ or not remains to be enquired: I suppose they do not.

7. Whether in Birds that want the Crop, that defect be always supplied by the largeness of the Gullet? Which (as we said) in many birds of this kind immediately above the stomach is dilated into a kind of bag or *ante-stomach.*

8. Whereas the single blind gut, situate about the middle of the guts, is nothing else but the passage deriving the Yolk into the guts contracted; it were worthy enquiry, whether there be not some external passage terminated in the blind guts commonly know and so called, as well in Beasts as in Birds; And seeing that in many birds the * *Appendices* are very small, and seem to be of no use to the birds when grown up, let it be enquired whether they are greater in *Embryon-birds*, and what use they may be of to them? * *i.e.* The blind guts.

9. Whether the single blind gut forementioned be always reflected toward the tail? In what birds the ends of the * *Appendices* are reflected? in what birds the * *Appendices* are striate? Whether below the * *Appendices* the gut be proportionably larger than above, according to the bigness of the * *Appendices?* Whether of the * *Appendices* the one is usually shorter than the other? And if so, whether the right or the left?

10. Whether some Birds have a double cluster of Eggs, as viviparous Animals have two *Ovaria*, usually called and mistaken for Testicles? or whether all have only a single one?

11. Whether Birds when ready to lay can detain their Eggs, if their nests happen not to be ready, or be by any accident destroyed? Or whether they sometimes fall from them against their wills?

12. Whereas some Birds, for example *Pigeons*, lay only two Eggs at a time, whether of the one of those is always bred a Cock, of the other a Hen-bird?

Answ. It doth most commonly so fall out, yet sometimes two Males, sometimes two Females are excluded together.

13. To make trial whether Eggs in *England* may be hatched by an artificial heat.

14. To obſerve what colours are moſt frequent in Birds, and in what parts; as for example, the rumps of many birds are of the ſame colour, *viz. Larks, Thruſhes, Sparrows*, &c.

15. What Birds wag their tails oft, as *Water-wagtails, Blackbirds, Morehens, Tringæ*, &c. One of the two middle feathers of the tail when it is cloſed covers the other, enquire whether the right or left feather lies oftneſt uppermoſt, or either of them indifferently, as it happens.

16. In what kind of Birds there are more Cocks uſually bred, as in *Ruffs*; in what more Hens, as in *Poultry?*

17. What Birds build upon the ground, as all of the *Poultry* kind, *Lapwings*, and in general all ſuch as run and feed themſelves ſo ſoon as they are hatcht, being covered with a thick down? What build on trees and in hedges, as the greateſt part of Birds? What in the water, as *Morehens?* What Birds ſit always on the ground, never lighting upon trees? What perch upon trees?

18. What Birds hide themſelves or change places, whether in Winter or in Summer?

19. What would become of *Nightingales, Cuckows*, &c. in Winter; and of *Fieldfares*, &c. in Summer, if they were kept in Cages, and carefully tended, fed and cheriſhed?

20. How cometh it to paſs that the moſt vehement cold in Winter-time, if they have but food enough, doth not congeal or mortifie the tender bodies of ſmall birds?

21. Whether the age of *Pheaſants, Hawks*, &c. may be known by the croſs bars in their tails?

22. How many Birds have white feathers under their tails? How many have briſtles under their chin, at the corners of their mouths, or about their noſthrils?

23. What Birds, either terreſtrial, or aquatic, have two croſs lines in their wings?

24. How many Birds have the exterior vanes of their flag-feathers broader than the interiour?

Chap. VII.

Of ſome remarkable Iſles, Cliffs, and Rocks about England, *where Sea-fowl do yearly build and breed in great numbers.*

MAny Water but eſpecially Sea-fowl do yearly breed and bring forth young in great companies, either in high Rocks, or Deſart, and leſs inhabited Iſlands in the Sea, or on high and ſteep Cliffs by the Sea-ſide. The more noted and famous places of this kind about *England* are,

The Baſſe. 1. The *Baſſe* Iſland in the great Bay called *Edinburgh-Frith* or *Forth*, not far from the ſhore: which Dr. *Harvey* doth not leſs truly than elegantly deſcribe in theſe words: *There is a little Iſland, the* Scots *call it* Baſſe, *ſtanding very high, environed with ſteep and craggy Cliffs (one might more truly and properly call it a huge Rock than an Iſland) not much more than a mile in compaſs. In the months of* May *and* June *the ſurface of this Iſland is almoſt wholly covered with Neſts, Eggs, and young Birds; ſo that for the multitude of them one can ſcarce any where freely ſet ones foot: and ſuch a number of Birds there is flying over ones head, that like Clouds they cover the Skie, and take away the ſight of the Sun: making ſuch a noiſe and din with their cries that people talking together near-hand can ſcarce hear one another. If from thence as from a lofty Tower, or high Precipice you look down upon the Sea underneath, you ſhall ſee it every way covered with an infinite number of Birds of divers ſorts ſwimming up and down, intent upon their prey: In like manner as Pools of water in ſome places in the Spring time are ſeen, over-ſpread with Frogs: or the open hills and ſteep mountains are beheld at a diſtance, thick-ſet, and as it were cloathed with flocks of Sheep and Goats. If you liſt to ſail about the Iſland, and from below look up the Cliffs as it were over-hanging your head, you might ſee on all the ſhelves and ledges of the Rocks and craggy Cliffs innumerable rows of birds of all ſorts and magnitudes, more in number than the Stars that appear in a clear and Moonleſs night. If you look at them that are coming to the Iſland, or flying away at a diſtance, you would take them to be huge ſwarms of Bees.* Thus far Dr. *Harvey*. But I ſuppoſe he was miſtaken

in

in that he writes that the Lord of the Island makes some profit yearly of the reliques of the Nests useful for fewel. For these kinds of Birds do not make their Nests of straws, sticks, or such like combustible matter, good for fewel; but either lay their Eggs on the naked rocks, or spread under them very few straws, bents, or such like inconsiderable stuff.

The Birds that chiefly frequent this Island that they may breed there are 1. *Soland Geese*, which are proper to the *Basse*, not breeding elsewhere about *Britain*, that we know of. When we were there near Mid-*August*, all the other Birds were departed, only the *Soland Geese* remained upon the Island, their young being not yet fully grown and fledg'd. The manner of getting them is by letting down a man in a basket by a rope from the top of the Cliff, who gathers the young off the ledges of the Rocks, as they let him down or draw him up. 2. The *Turtle-Dove*, or *Sea-Turtle*, so called here (as I suppose) from some similitude it hath to the *Turtle-dove*. It is a whole-footed bird, and, I suspect, the same that we have described under the title of the *Greenland-dove*. This also is a bird peculiar to this Island. 3. The *Scout*, which is either the *Lomwia*, or the *Alka* of *Hoierus*: though we believe that both these Species breed here. These are found also in many other places about *England*. 4. The *Scarf*, which from the agreement of the name with the Dutch *Scharpff*, I take to be the *Cormorant*. 5. The *Cattiwick*, a sort of small *Sea-gull*, besides many other *Species* of Gulls. Soland Geese.

2. The *Farn Islands* near a Village in the Coast of *Northumberland* called *Bambergh*, famous for an ancient Castle built on a Rock, now almost ruined. The Birds which chiefly frequent and build upon these Islands in Summer time are 1. S. *Cutberts Duck*, called by *Wormius*, as I suppose, *Eider*. This is never seen but in breeding time, and as soon as her young ones are hatcht takes them to Sea, and never looks at land till breeding time next. It is proper to these Islands, and breeds no where else about *England*, that we know of. 2. *Guillemots* or *Sea-hens*, i. e. *Lomwiæ Hoieri*. 3. The *Skout*, i. e. *Alka ejusdem*. 4. *Counter-nebs* or *Coulter-nebs*, *hic dictæ*, i. e. *Anates Arcticæ Clus.* 5. *Scarfs*, i. e. *Cormorants*, or perhaps *Shags*. 6. *Puffinets*, which the name argues to be *Puffins*: but the description here given us of them (for we saw not the bird) agrees rather to the *Basse-Turtle*. 7. Several sorts of Gulls, *viz.* 1. *Mire-crows*, all white-bodied, only having black heads, and somewhat bigger than Pigeons; by which description we conclude them to be *Pewits*. 2. *Annets*, small white Gulls, having only the tips of their Wings black; and the Bill yellow, perhaps *the black-footed Gull*. 3. *Pickmires*, or Sea-Swallows. 5. *Terns*, the least sort of Gull, having a forked tail. 8. *Sea-Piots*, i. e. Sea-pies, *Hæmatopus Bellonii*.

3. The Sea-cliffs about *Scarborough*, from which were sent us, the *Anates Arcticæ* of *Clusius*, called here *Mullets*. 2. The *Alkæ* of *Hoierus*, known here by the same name of *Auks*. 3. The *Lomwiæ* of the same *Hoierus*, named *Skouts*. Besides doubtless there breed many Gulls among these fowl.

4. A noted Island not far from *Lancaster*, called the *Pile of Foudres*: which great flocks of divers sorts of Sea-fowl do yearly frequent, and breed there.

5. The *Isle* of *Man* with a little adjacent Islet, called the *Calf of Man*, in which besides *Mullets*, *Razor-bills*, and *Guilliams*, *English Puffins* build in great numbers, and no where else about *England* (that I know of) but in the *Silly* Islands.

6. *Prestholm*, a small uninhabited Island near *Beaumaris* in the Isle of *Anglesey*, belonging to my Lord *Bulkley*. On this Island build the *Anates Arcticæ* of *Clusius* (here called *Puffins*) *Razor-bills*, *Guilliams*, *Cormorants*, and divers sorts of *Gulls*.

7. *Bardsey* Island, situate at the utmost Angle or Promontory of *Carnarvanshire* in *Wales*.

8. *Lundy Island* in the *Severn-Sea*.

9. The Cliffs by the Sea-side near *Tenby* in *Wales*.

10. *Godreve*, an Island or rather a Rock, not far from St. *Ives* in *Cornwall*, where *Auks* and *Guillims*, here called *Murres* and *Kiddaws*, breed.

11. The *Silly* Islands, in the main Sea, about thirty miles distant from the *Lands end* in *Cornwall* to the West.

12. *Caldey* Island near *Tenby* in *Pembroke shire*, in one part whereof we saw Gulls Nests lying so thick, that we could scarce take a step without setting our feet upon one.

13. The Isle of *Erm* near *Guernsey*.

Chap. VIII.

Of the Division of Birds.

Land fowl.

Water fowl.

Hook-bill'd birds.

Streight-bill'd birds.

Birds in general may be divided into *Terrestrial* and *Aquatic*, or *Land* and *Water-fowl*.

Terrestrial are such as seldom frequent waters, but for the most part seek their food on dry land.

Aquatic are such as are much conversant in or about waters, and for the most part seek their food in watery places; of which we will treat *Book* III.

Terrestrial Birds are either such as have *crooked Beak* and Talons, called by the *Grecians* Γαμφώνυχες, or such as have more *streight Bills* and Claws.

Those that have *crooked* Bills and Claws, called Γαμφώνυχες, are either *Rapacious* and carnivorous, such as we call *Birds of prey*, or more *gentle* and frugivorous, as *Parrots*.

Rapacious and carnivorous are either *Diurnal*, such as prey by day-light, or *Nocturnal*, such as prey by night.

Rapacious diurnal Birds are usually divided according to their magnitude into the *greater* and *lesser* kind.

The *greater* kind are either the *more generous*, which have their Beaks hooked almost from the root, and are called *Eagles*, or the *sluggish* and *less generous*, having their Beaks streight for a good space from the root, and hooked only toward the point, called *Vultures*.

The *lesser* kind, called in Latine *Accipitres*, may be again subdivided into the *more generous*, which are usually reclaimed and trained up for fowling, properly called *Hawks*; and the *more cowardly* or *less generous*, such as are neglected by *Falconers*, as being of no use for fowling; and therefore permitted to live at large, which may be called *wild Hawks*.

Hawks properly so called are divided by Falconers into *long-winged* and *short-winged*.

Long-winged Hawks are such the tips of whose wings when closed reach almost to the end of the train: *Short-winged* are such the tips of whose wings when shut or withdrawn fall much short of the end of the train.

Birds that have *more streight* bills and claws are either the *greater* or the *lesser*, which we call *small birds*. Under the title of *greater* we comprehend all that do exceed or equal the common *Thrush* or *Mavis* in bigness. Yet to some kinds of bigger Birds (as for example *Woodpeckers*) by reason of the agreement of the characteristic notes we are forced to add one or two Birds lesser than *Thrushes*. *The greater* are either such as have *large*, *strong*, *streight*, *and long Bills*, or *lesser and shorter ones*. The first are either such as feed promiscuously upon Flesh, Insects and fruit (or grain) or at least Insects and fruit; or such as feed upon Insects only. Those in respect of colour may be divided into two kinds, *viz.* 1. *The Crow-kind*, whose body is for the most part of one colour and black: 2. *The Pie-kind*, whose body is covered with party-coloured feathers. Of these, [that feed only on Insects] there is but one kind, v. g. *Woodpeckers*. Such as have *lesser* and *shorter bills* may be distinguished by the colour of their flesh, into such as have *white flesh*, and such as have *black flesh*. Those that have *white flesh* are the Poultry kind, *Hens*, *Peacocks*, *Turkeys*, &c. Those that have *black flesh* are either the *greater*, that lay but two Eggs at a time, as *Pigeons*; or the *lesser*, which lay more than two Eggs at once, as *The Thrush kind*. The *lesser* sort of Birds with *streighter bills*, such as we usually call *small birds*, may be divided according to their Bills, into such as have *slender bills*, and such as have *thick and short bills*. Of both kinds there be many subalternate species; of which when we come to treat of *small Birds*.

Chap. IX.

A Catalogue of Engliſh Birds, as well of ſuch as abide here all the year, and never change place, as of ſuch, which at ſet times come and go, which we call Birds of paſſage.

Rapacious Diurnal Birds.

The Eagle, which doth not only come over hither to prey, but alſo many times builds and breeds with us yearly (they ſay) upon the high rocks of *Snowdon* in *Carnarvanſhire*. In the year of our Lord 1668. in the Woodlands, near the River *Derwent* in the *Peak* of *Derbyſhire* was found an *Eagles* Neſt, made of great ſticks, reſting one end on the ledge of a Rock, the other on two Birch-trees, upon which was a layer of Ruſhes, and over them a layer of Heath, and upon the Heath Ruſhes again; upon which lay one young one and an addle Egg, and by them a *Lamb* and a *Hare*, and three *Heath-poults*. The Neſt was about two yards ſquare, and had no hollow in it. The young *Eagle* was as black as a *Hobby*, of the ſhape of a *Goſhawk*, of almoſt the weight of a *Gooſe*, rough-footed, or feathered down to the foot, having a white ring about the tail. I ſuppoſe this was of the ſame kind with thoſe kept in the *Tower* of *London*, which we have deſcribed under the title of *The Golden Eagle with a white ring about its tail.*

The Sea-Eagle or *Oſprey*, *Haliætus ſive Oſſifraga*, which preys often upon our Rivers. There is an aery of them in *Whinfield*-Park *Weſtmerland*, preſerved carefully by the *Counteſs* of *Penbroke*: but the report of their having one web'd foot is fabulous. Mr. *Johnſon.*

The Falcon, *Falco*, is found to build in *Scotland*. We have been told that there is an Aery of them near *Holy-head* in the Iſle of *Angleſey* in *Wales*.

The *Common* Buzzard, *Buteo ſive Triorches*. This Bird is a great deſtroyer of Conies.

The Honey-Buzzard, *Buteo apivorus ſive veſpivorus*. This is like the precedent, differs in that it hath an aſh-coloured ring or broad bar croſs the train and wings.

The Bald Buzzard, *Balbuſardus Anglorum*, *Haliætus* Aldrov. This is by ſome called the *Sea-Eagle*, and preys upon fiſh.

The Moor-Buzzard, *Milvus Æruginoſus*, Aldrov. This is known by being all over of a dark fulvous or Cheſnut colour, except the crown of the head, which is of a pale clay colour.

The Kite or *Glead*, *Milvus*. The Characteriſtic note whereof is its forked tail, wherein it differs from all other rapacious Birds that we have ſeen.

The Ring-Tail, *Pygargus Accipiter*, *Subbuteo* Turneri, the Male whereof is called *the Hen-harrier*, from preying upon Hens. He doth (ſaith *Turner*) on a ſudden ſtrike at Birds in the fields, or Pullen in Towns, and miſſing of his prey departs ſlily and ſilently, never making a ſecond attempt; of all Birds of prey flying neareſt the ground. *Geſner* ſuſpects this Fowl to be the *Circus* of the Ancients.

The Sparrow Hawk, *Accipiter Fringillarius Recentiorum Niſus & Sparverius*. The Male or Tarcel of this is called a *Muſket* after the *French* name. This is a great deſtroyer of Pigeons, too frequent with us.

The Hobby, *Subbuteo* Bellonii & Aldrov. This from perſecuting of *Larks* (which are its chief and particular game) is not unfitly by Mr. *Johnſon* entituled *Accipiter Alaudarius*.

The Kestrel, *Stannel*, or *Stonegal*, and in ſome places the *Windhover*, becauſe it doth as it were fan the wind by the motion of its wings, hovering in the ſame place: Hence the *Germans* alſo call it *Wannenwacher*, that is, the *Wind-fanner*. *Tinnunculus ſeu Cenchris.*

The *greater* Butcher-Bird or *Mattageſſe*, and in the *Peak* of *Darbyſhire* after the *German* name *Wierangel*, or *Werangel*, *Lanius cinereus major*. This our Falconers ſometimes reclaim, and train up for ſmall Birds. She ſits upon a high bough, making an uncouth noiſe; the Birds thereby allured become her prey.

The Wood-Chat, *Lanius minor cinereo-ruffus*.

The *leſſer reddiſh* Butcher-Bird, *Lanius minor rubeſcens*. This Bird having

having no particular Engliſh name, that we know of, we have impoſed this upon it. Theſe Birds are called alſo in *Latine Colluriones*, and in Engliſh by Dr. *Turner*, *Shrikes*. It is common to all theſe *Butcher-Birds* to have black briſtles about their bills.

The Cuckow, *Cuculus*. Who becauſe he preys only upon the Eggs of Birds, (and is therefore purſued, not attended, as is ſaid, by the *Moor-titling*) or their young ones in the Neſt, hath ſmall and weaker Beak and Talons, and therefore diſappears in Winter, when ſuch food is not to be had. I have known one kept with all imaginable care, but (whether through alteration of food, or ſome other cauſe) before Winter, ſhe grew torpid, broke out in ſcabs, and died. The young one is curiouſly ſpotted. I have ſeen one in Harveſt partly ſpotted, partly cinereous. Mr. *Johnſon*.

Rapacious Nocturnal Birds.

The Horn-Owl, *Otus ſive Noctua aurita*, called alſo by the Latines *Aſio* according to *Pliny*.

The *Common* White Owl, or *Barn-Owl*; this Mr. *Johnſon* calls the *Church-Owl*, by which name the *Low Dutch* alſo call a ſort of *Owl*.

The Brown or Ivy-Owl, and from its ſchreeking noiſe *the* Screech-Owl. *Strix* Aldrov.

The Grey Owl, as big as the former. Dr. *Charleton* in his *Onomaſticon Zoicon* attributes the Engliſh name *Gill-hooter* to this Bird, which is, I ſuppoſe, a general name of all *Owls*.

The Fern Owl, or *Churn-Owl*, or *Goat-ſucker*. *Caprimulgus*. In the mountainous woods in the *Peak* of *Derbyſhire*, the *Weſt Riding* of *York-ſhire*, in *Shropſhire*, and many other places, all over *England*.

The Crow Kind.

The Raven, *Corvus*. This often deſtroys young Lambs, firſt picking out their eyes; is of very quick ſent, and by ſome trained up as a Hawk for fowling.

The *Common* or *Carrion* Crow. This is not much more than half ſo big as the former, otherwiſe very like it. It feeds upon fleſh and dead carcaſſes, in want whereof it will eat corn.

The Rook, *Cornix frugilega*. It is diſtinguiſhed from the *Crow*, to which otherwiſe it is very like, by its white beak and being gregarious, beſides other notes * afterwards to be mentioned.

* In the Chapter of the Rook.

The Royston Crow, *Cornix cinerea frugilega*. Common in *Cambridge-ſhire*, about *Newmarket* and *Royſton*. Mr. *Johnſon* calls it the *Sea-Crow* and ſaith it is frequent about *Stockton* in the Biſhoprick of *Dureſm*, near the mouth of the River *Tees*.

The Jack-daw, *Monedula* ſive *Lupus* Aldrov. This alſo feeds promiſcuouſly upon fleſh, corn, ſeeds, inſects, *&c.* In the ſtomach of a young one taken out of the neſt, beſides ſeveral ſorts of inſects, we found among divers other ſeeds many grains of Wheat, Rye, *&c.*

The Cornish Chough, *Coracias*, called alſo *Pyrrhocorax*, though *Aldrovandus* would have theſe to be diſtinct Birds. It is found not only in *Cornwal*, but alſo all along the Weſt coaſt of *Wales*.

The Pie, *Magpie*, or *Piannet*, *Pica varia* ſeu *caudata*, called alſo ſimply *Pica*.

The Jay, *Pica glandaria*. This Bird is very greedy of Cherries, he feeds alſo upon Maſt, as the Latine name imports.

The Woodpecker-Kind.

The Green Woodpecker, or *Woodſpite*, *Picus viridis*. This Bird is by ſome called a *Heyhoe*,, which name is, I ſuppoſe, corrupted from *Hewhole*, as *Turner* ſaith it was called in *Engliſh* in his time, and Mr. *Johnſon* now. By others it is called *Rain-fowl*, becauſe its cry when more frequent and ſhrill than ordinary is thought a Prognoſtic of rain.

The Greater Spotted Woodpecker, or *Whitwall*, *Picus varius major*.

The

The LESSER SPOTTED WOODPCKER, *or Witwall, or Hickwall. Picus varius minor.* I suppose *Witwall* is a name common to both Species.

The WRYNECK, *Jynx sive Torquilla.* This agrees with the forementioned *Woodpeckers* in the disposition of the toes and fabric of its tongue: It differs from them 1. In having a slenderer and weaker bill: So that it hews not for it self a hole in the solid Wood, but builds in rotten and hollow trees. 2. In having its tail not so stiff.

The NUTHATCH, or *Nut-jobber. Picus cinereus.* She hath not a long tongue as the other, because she feeds not on *Cossi* as they do, but on other Insects, and especially on Nut-kernels. It is a pretty sight to see her fetch a Nut out of her hoard, place it in a chink, and then stand over it with her head downward, strike it with all her might, and breaking the shell catch up the Kernel. The feathers of her tail are not stiff and pointed, because her motion is rather down than up trees: nor hath she two hind-toes: but the inner toe is separated a little from the middle, and falls somewhat across (as in the *Owl-kind*) whereby she can support her self in any motion. Her voice is very shrill. Mr. *Johnson.*

The CREEPER, or *Ox-eye-Creeper, Certhia.* It hath a long slender Bill, bending like a Bow, more commodiously to reach into the chinks of the bark of trees.

The HOOP, or *Hoopoe, Upupa, Epops.* Why we subjoyn this Bird to the *Woodpeckers* shall be said when we come particularly to treat of it. This is sufficiently differenced from all other Birds by its crest all along the head; it is more rare with us.

THE POULTRY KIND.

The HOUSE COCK, *Roost-Cock*, or *Common Dunghill Cock and Hen, Gallus Gallinaceus & Gallina domestica.* Of these there are several species or varieties, which we shall enumerate afterwards.

The PEACOCK, *Pavo*, both the common, and the white.

The TURKEY, *Gallopavo seu Avis Numidica & Meleagris.* Neither *Turkeys* nor *Peacocks* are native of *England*, but because they are tame fowl, and easily bear our Winters, and it is now a long time that they have been brought over, we may very well reckon them among *English* birds.

The COCK of the WOOD or *Mountain, Urogallus seu Tetrao major.* Aldrov. This is not found in *England*, but in *Ireland* there be of them.

The BLACK COCK, his Hen the *Grey hen*; his Brood the *Grey Game.* This Bird is called also the *Heath-Cock*, and *Grous, Tetrao, sive Urogallus minor.* In great Heaths in many places of *England.*

The RED GAME, *Lagopus altera Plinii, an Attagen* Aldrov. In the North of *England* it is called, The *Gor-Cock* and *Moor-Cock*, the Hen the *More-hen*, the Brood *Gor-fowl. Heath-Cock* is also a name common to this with the precedent. *Turners More-hen* is the Female of the precedent or *Black Cock. Gor* in the North of *England* signifies red, so the *Gor-Cock* is the red Cock, *&c.* For the understanding and exact distinction of these names we are beholden to Mr. *Johnson* of *Brignal* in *Yorkeshire.*

The PHEASANT, *Phasianus*: a bird well known, and for the beauty of its colours comparable to the *Peacock.*

The *Common* PARTRIDGE, *Perdix cinerea.* We have been informed that the *Red-leg'd Partridge, Perdix rufa* is found in the Isles of *Jersey* and *Guernsey.*

The QUAIL, *Coturnix.*

The RAIL or *Daker-hen, Ortygometra*, Aldrov. *seu Rallus terrestris.* This is very common in *Ireland*, but more rare with us. *Turner* saith he never saw nor heard of it but in *Northumberland.*

THE PIGEON KIND.

The *Common* WILD PIGEON, or *House-Dove*, or *Culver, Columba domestica seu vulgaris.*

The ROCK-PIGEON, *Columba rupicola*; ash-coloured, with red legs, of small size, observed by Mr. *Johnson.*

The RING-DOVE, or *Queest*, in the North of *England Cushat, Palumbus torquatus.*

The

The Stock-Dove, or *Wood-Pigeon*, *Oenas sive Vinago.*

The Turtle-Dove, *Turtur*, found in the Southern part of *England*, *Kent*, *Sussex*, &c.

The Thrush Kind.

The Missel-Bird, or *Shrite*, and in the North the *Thrush* simply without addition, *Turdus viscivorus major.*

The Throstle, *Mavis*, or *Song-Thrush*, *Turdus simpliciter dictus seu viscivorus minor.*

The Redwing, *Swine-pipe*, or *Wind-Thrush*, *Turdus Iliacus*, *Illas seu Tylas.* It should rather be written and pronounced, The *Wine-thrush.*

The Fieldfare or *Feldefare*, *Turdus pilaris.* These two last are birds of passage, never build here, but come over in Winter time.

The *Common* Blackbird or *Ouzel*, *Merula vulgaris.* This word *Ouzel* is undoubtedly of the same original with the *Italian Uccello*, and the *French Oiseau*, signifying in general a Bird; however it be with us appropriated to this kind.

The Ring-Ouzel, *Merula torquata.*

The Water-Ouzel, or *Water-crake*, *Merula aquatica.*

The Stare or *Starling* which saith Mr. *Johnson*, I never saw eat Berries, whereas all the rest of this tribe, except perhaps the *Water-Ouzel*, are baccivorous.

Small Birds with slender Bills.

The *Common Field* / *Wood-* / *Tit-* / *Lesser crested* Lark. *Alauda* { *Vulgaris.* / *Arborea.* / *Pratorum.* / *Cristata minor.*

This last we have not yet seen. Mr. *Johnson* found and described it in the North of *England.*

Swallows { *The common house Swallow* / *The Martin or Martlet* / *The Sand-Martin or Shore-bird* / *The black Martin or Swift.* — *Hirundo* { *Domestica.* / *Agrestis seu rustica*, Plin. / *Riparia.* / *Apus.*

Titmise, { *The great Titmouse or Oxe-eye* / *The black-headed Titmouse* / *The Marsh Titmouse* / *The blew Titmouse or Nun* / *The long-tail'd Titmouse* — *Parus* { *Major seu Fringillago.* / *Alter*, Gesn. / *Palustris.* / *Cæruleus.* / *Caudatus.*

Water Wagtails, { The *White*, *Motacilla alba.* This comes every seed-time, and follows the Plowman, and is therefore by him called the *Seed Bird.* Mr. *Johnson.* / The *Common Yellow. Mot. flava.* / *The other Yellow*, *Mot. flava altera.* This was observed in the North by Mr. *Johnson*, and the description thereof communicated to us.

The Nightingale, *Luscinia seu Philomela.*

The Redstart, *Ruticilla*, *Phoenicuros.*

The Robbin-Redbreast, or *Ruddock*, *Rubecula sive Erithacus.*

The Black Chat, or *Beccafigo*, *Atricapilla.*

The Stone-smich, or *Stone-chatter*, *Muscicapa tertia*, Aldrov. This is (as I suppose) the *Rubetra* of *Bellonius*, and the *Moor-Titling* of *Turner.*

The Whin-chat, *Oenanthe nostra secunda*, *seu Rubicola.*

The Coldfinch of the *Germans:* This, notwithstanding the name, is nothing akin to the *Finches.* It was found in the Mountains of the *Peak* in *Derbyshire.*

The White-Throat, *Spipola prima*, Aldrov. *forte.*

The Hedge-Sparrow, *Curruca Eliotæ.*

Pettichaps, *Ficedula septima*, Aldrov.

A Bird like to the Stoparola of *Aldrov.* which we once took to be the *Moucherolle* of *Bellonius.* We have not heard of any *English* name of this.

The Golden-crown'd Wren, *Regulus cristatus.*

The

The Bird called by *Aldrovand. Regulus non criſtatus. An Aſilus an Luteola, Turneri.* We know not any Engliſh name of this. It ſings like a Graſhopper.

8. The WREN, *Paſſer troglodites.* This bird was formerly miſtaken for the *Regulus.*

To theſe may be added the *King-fiſher, Iſpida,* which is of a peculiar kind by himſelf, being a piſcivorous Land-bird. See alſo among cloven-footed Waterfowl with Bills of middle length.

SMALL BIRDS WITH THICK AND SHORT BILLS.

The GROSBEAK, or *Hawfinch, Coccothrauſtes:* it is but ſeldom ſeen in *England,* and that only or chiefly in Winter.

The GREEN-FINCH, called in the Northern parts of *England* the *Green Linnet, Chloris.*

The BULL-FINCH, *Alp,* or *Nope, Rubicilla ſeu Pyrrhula.*

The SHELL-APPLE, or *Croſs-bill, Loxia.* This comes over ſometimes in the Autumn, but ſeldom abides the whole year with us.

The HOUSE-SPARROW, *Paſſer Domeſticus.*

The CHAFFE-FINCH, *Fringilla.*

The BRAMBLE, or *Brambling, Montifringilla.* Of this Mr. *Johnſon* hath lately obſerved two new ſpecies or varieties, the one about the ſize of the common ſort, the other ſomewhat bigger than a *Lark.* Both have Cheſnut heads, and white wings.

The GOLDFINCH, *Carduelis, Acanthis.*

The COMMON, The GREATER RED-HEADED, The LESSER RED-HEADED } LINNET, *Linaria* { *Vulgaris.* *Rubra major.* *Rubra minor.*

The SISKIN, *Spinus ſive Ligurinus.*

The BUNTING, *Emberiza alba,* Geſn.

The YELLOW-HAMMER, *Emberiza flava.*

WATER FOWL.

AND FIRST,

CLOVEN-FOOTED, *ſuch as live about waters, and frequent watery places.*

THE GREATER KIND.

1. The CRANE, common in the Fens of *Lincolnſhire,* and in *Cambridgeſhire, Grus.*

2. The COMMON HERON, or *Heron-ſhaw, Ardea cinerea major.* It builds upon trees, and is a great deſtroyer of fiſh.

3. The WHITE HERON, *Ardea alba.*

4. The BITTOUR, or *Bittern,* called in the North of *England* the *Mire-drum,* whoſe drumming note (ſaith Mr. *Johnſon*) I have in an Evening heard a mile off. *Ardea ſtellaris, ſive Taurus.* This, I ſuppoſe, is the Bird which the Vulgar call the *Night-Raven,* and have a great dread of. It builds upon the ground, and lays four or five Eggs.

THE MIDDLE AND LESSER KINDS.

1. *With very long Bills.*

1. The CURLEW, *Arquata ſive Numenius.*

2. The WHIMBRELL, or *ſmall Curlew. Arquata minor.*

3. The WOODCOCK, *Scolopax.* A bird of paſſage; yet ſome ſtraglers abide and breed here.

4. The SNIPE, *Gallinago minor.*

5. The GID, or *Jack-Snipe,* in the North, the *Judcock, Gallinago minima.*

6. The GODWIT, in the Isle of *Ely* and elsewhere the *Yarwip* or *Yarwhelp*. *Fedoa*, Gesn. *Barge fortè Bellonii.*

7. TOTANUS, *Aldrov.* I have not as yet heard of any *English* name of this; I suppose our Countrymen confound these *Species*, calling both by the same name, for their great likeness.

8. The STONE-PLOVER, *Fedoa nostra tertia.* This Bird we saw in *Cornwall.*

9. The SEA-PIE, *Hæmatopus*, Bellonii. *Pica marina*, Gesn.

2. *With middle-sized Bills.*

1. The RUFFE, *Avis pugnax*; The female of this is called the *Reeve.* These Birds differ wonderfully in colours, so that scarce can there be found any two alike.

2. The REDSHANK, or *Pool-Snipe*, *Totanus*, Gesn. *& Gallinula Erythropus major ejusdem.*

3. The KNOT, that is King *Knout* or *Knute* [*Canutus*] his bird. *Cinclus Bellonii, an Callidrys cinerea?*

4. The SANDERLING, or *Curwillet*, *Arenaria nostra.* It is of the bigness of the lesser *Tringa*, and wants the back-toe. This Sir *T.B.* calls the Sea-Dottrel.

5. The GREATER TRINGA.

6. The SANDPIPER, *Tringa minor*, *the Oxe-eye* in *Sussex.*

7. The STINT, *Alauda marina*, about *Chester* called a *Purre.*

8. To these may be added (though it hath short legs, and wades not in water) the KINGFISHER, *Ispida.*

3. *With short Bills.*

1. The LAPWING, called in some places the *Bastard-Plover*, in the North, in imitation of its note or voice, the *Tewit. Capella sive Vannellus.*

2. The GREEN PLOVER, *Pluvialis viridis*, called also *Pardalus*, because spotted almost like a *Leopard.*

3. The GREY PLOVER, *Pluvialis cinerea.*

4. The STONE-CURLEW, *Oedicnemus*, Bellonii.

5. The DOTTREL, *Morinellus.*

6. The SEA-LARK, *Charadrius sive Hiaticula.* These three last named Birds do all want the back-toe.

7. The TURNSTONE, *Cinclus*, *Turneri fortè.* This Bird we found on the Sea-coast of *Cornwall*, It is bigger than a *Blackbird*, and lesser than a *Plover.*

WATER FOWL THAT SWIM.

I. CLOVEN-FOOTED, *some of which may be called* FIN-TOED, *because they have lateral appendant membranes on each side their toes.*

1. The CRESTED DIVER, *Colymbus cristatus.*

2. The ASH-COLOURED DIVER, *Colymbus cinereus major.*

3. The DIDAPPER, *Dobchick*, or *Doucker*, *Colymbus minor.*

4. The GREATEST DIVER, or *Loon*, *Colymbus maximus.* This Bird is whole-footed, but for its perfect agreement with the rest of the *Colymbi* we have subjoyned it to them. All these Birds are also called *Loons* and *Arsfeet*, from the situation of their legs, just behind.

5. The *Common* WATER-HEN, or *Morehen. Gallinula Chloropus.* This and the following Bird run swiftly.

6. The WATER-RAIL, *Rallus aquaticus.*

7. The COOT, or *Bell-Coot*, *Fulica.*

II. WHOLE-FOOTED BIRDS, and first,

1. *Such as have but three toes.*

1. The COULTER-NEB, *Pope*, *Mullet*, and in some places the *Puffin. Anas Arctica Clus. Fratercula quorundam.*

2. The

2. The RAZOR-BILL, *Auk* or *Murre. Alca Hoieri.*
3. The GUILLIAM, or *Guillemot*, *Sea-hen*, or *Kiddaw*, *Lomvia Hoieri.*
4. The SEA-TURTLE, *Turtur marinus Baſſanus.* We ſuppoſe this *Turtle Dove* of the *Baſſe* Iſland wants the back toe, but are not thereof very confident, having never ſeen it.

2. Such as have four toes all web'd together.

1. The SOLAND-GOOSE, *Anſer Baſſanus.*
2. The CORMORANT, *Corvus aquaticus ſive Carbo.*
3. The SHAG, and in the North Country the *Crane*, *Graculus palmipes.*

Theſe have all their toes web'd together for more ſwift and ſpeedy ſwimming, the claw of their middle toe ſerrate, for to hold fiſh.

3. Such as have four toes, but the hind one ſeparate; And firſt,

1. Such as have narrow and ſharp-pointed Bills.

1. The great BLACK AND WHITE GULL, *Larus maximus ex albo & nigro varius.* This is almoſt as big as a *Gooſe*. I ſaw and deſcribed it at *Cheſter.*
2. The HERRING-GULL, or *greateſt aſh-coloured Gull*; called corruptly, *the White Gull*; *Larus cinereus maximus.* It is as big as a Duck, with an aſh-coloured back.
3. The *Common* SEA-MALL, *Larus cinereus minor*; as big as a Pigeon, with an aſh-coloured back.
4. The GREY GULL, perchance the Corniſh *Wagel*, *Larus griſeus*: called in *Holland* the Burgomaſter of *Groenland.*
5. The *Corniſh* TARROCK, *Larus cinereus* Bellonii. It wants the back toe, inſtead thereof having only a ſmall protuberancy.
6. The PEWIT, or *Black-cap*, *Cepphus*, Turneri & Geſn.
7. The WINTER MEW, or *Coddy-Moddy*, *Larus fuſcus ſive hybernus.*
8. The SEA-SWALLOW, *Hirundo marina.*
9. The LESSER SEA-SWALLOW, *Larus piſcator*, Geſn. & Aldrov.
10. The SCARE-CROW, *Larus niger*, Geſn.
11. The BLACK CLOVEN-FOOTED GULL, *Larus niger fidipes noſter.*
12. The BROWN TERN, *Larus* Sterna fuſca *dictus.*

Beſides theſe Mr. *Johnſon* ſhew'd me another ſmall bird of this kind, which he called *Larus fidipes alter*: which I then took to belong to the *Water-hen-kind*, but by his deſcription of it ſince ſent me, I now rather incline to his opinion, that it is a *Larus*, or ſmall *Gull.*

The GANNET, *Catarractes noſter*, the *Skua* of *Hoierus*, A *Corniſh* bird.

To theſe may be added the PUFFIN, or *Curviere*, *Puffinus Anglorum.* On the *Calf of Man*, and the SILLY Iſlands.

2. Such as have narrow, ſerrate, or toothed Bills.

1. The GOSSANDER, or *Bergander*, *Merganſer*, Aldrov. The female of this (miſtaken for a diſtinct ſort) is called the *Dun Diver*, or *Sparling-fowl.*
2. The *Leſſer* TOOTH-BILL'D DIVER, *Mergus cinereus fuſcus.*
3. The WHITE NUN, *Albellus alter*, Aldrov. The Female of this is alſo miſtaken for a different kind, and called *Mergus Glacialis*, which Mr. *Johnſon* Engliſhes the *Lough Diver.* The Male and Female in this and the precedent differ ſo much in colour that they have been even by the beſt Naturaliſts deſcribed and figured for diverſe Species. I had the Female of this latter lately ſent me from *Cambridge*, by the title of a *Smew.* I ſuppoſe the name is originally *High Dutch*; for I find in *Baltner* our common *Wigeon* intitled *Ein Schmey.*

4. SUCH AS HAVE BROAD BILLS, and firſt,

1. The Gooſe-kind.

1. The SWAN, *Cygnus*, *Olor.*

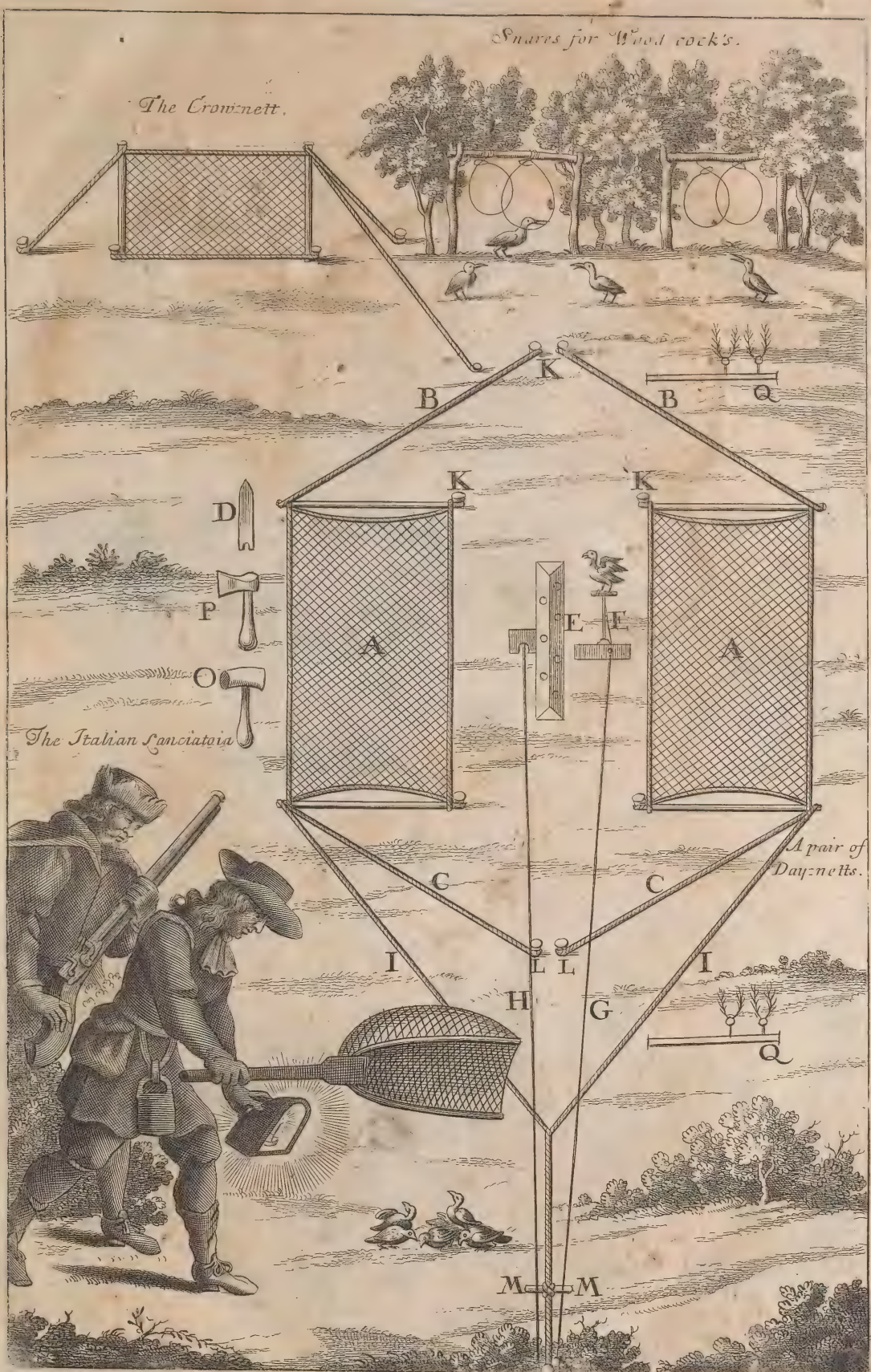
2. The Elk, *Hooper*, or *Wild Swan. Cygnus ferus.*
3. The Tame Goose, *Anser.*
4. The Wild Goose, *Anser ferus.*
5. The Swan-Goose, *Anser Guineus:* notable for her liſted neck, girdled breaſt, creſted head, and knobbed forehead. This was brought over from abroad, but is now grown common enough with us; as the *Turkey* and *Peacock* alſo were, which we reckon among our Domeſtics.
6. The Bernacle, or *Clakis*, *Bernicla ſive Bernacla.*
7. The Brent-Goose, *Brenta ſive Bernicla altera.*
8. The Rat-Goose, or *Road-Gooſe*, *Brenthus*, *Ariſtotelis fortè.*

2. *The Duck-kind.*

1. The Sheldrake, or *Borough-Duck*: *Tadorna* Bellonii. It is called *Sheldrake* from its being particoloured, *Sheld* ſignifying dappled or ſpotted with white; and *Burrow-duck* from building in *Coney-burrows.*
2. St. Cutberts Duck, *Anas Farnenſis*, building with us only on the *Farn* Iſlands. I take it to be the ſame with the *Eider* of *Wormius.*
3. The Scaup-Duck, *Fuligula fortè* Geſneri; It is called *Scaup-duck* from its feeding upon *Scaup*, *i. e.* broken Shelfiſh: varies infinitely in colour, eſpecially in head and neck, ſo that among a pack of forty or fifty you ſhall not find two exactly alike. Mr. *Johnſon.*
4. The Black Duck, *Anas niger*, Aldrov. Seen with Mr. *Johnſon.*
5. The Scoter, *or leſſer black Diver*, *Anas niger minor.*
6. The Tufted Duck, *Anas cirratus. Querquedula criſtata ſive Colymbis* Bellonii.
7. The Golden-Eye, *Clangula*, Geſn. This was ſent us from *Cambridge* by the title of *Shelden*, I ſuppoſe ſo denominated from its being particoloured of black and white, that is *Sheld*, ſo other pied birds are called *Sheld-fowl.*
8. The Shoveler, *Anas Platyrrhynchos altera ſive clypeata Germanica*, Aldrov.
9. The Leſſer Red-headed Duck, *Anas fera fuſca ſeu capite ruffo minor.*
10. The Pochard, *or great red-headed Duck. Penelops veterum*, Aldrov. *Anas fera fuſca, Rothalſs*, Geſn.
11. The *Common* Wild-Duck, *and Mallard*, *Boſchas major.*
12. The Sea-Pheasant, *Anas caudacuta.*
13. The *Common* Wigeon, or *Whewer. Penelope*, Aldrov. I am informed by Mr. *Dent* Apothecary in *Cambridge*, that the Males or Cocks are there called *Wigeons* and the Females *Whewers.*
14. The Gadwall, or *Grey. Anas Platyrrhynchos roſtro nigro & plano*, Aldrov.
15. The *Common* Teal, *Querquedula.*
16. The Summer Teal, *Anas Circia*, Geſn.
17. The Tame Duck, *Anas domeſtica.*
18. The Muscovy Duck, *Anas moſchata.*
19. The Hook-bild Duck, *Anas roſtro adunco.*

Among the whole-footed Water-fowl we omitted the *Recurviroſtra* or *Avoſetta Italorum*, which in Winter-time often frequents our coaſts, the *Shear-water* of Sir *Thomas Brown*, and the *Mergulus melanoleucos roſtro acuto brevi* of the ſame.

Among the cloven-footed Water-fowl the *Stork*, which is ſometimes ſeen upon our Coaſts, perhaps driven over by ſtorm, or other Accident.


Snares for Wood cock's.
The Crowinett.
B
K
B
Q
K
K
D
P
O
A
A
E
E
The Italian Lanciatoia
A pair of Dayznetts.
C
C
I
L
L
I
H
G
Q
M
M

A Trap Cage for Night-ingales.
The Pantiere Nett.
The Sparrow Nett.
C
D
A
B
E
F
G
Catching birds with a setting Dog, and Nett.
A Tunnelling Nett for Partridge.
Tunnelling for Quails.

AN ADDITION To the First Book of the ORNITHOLOGY OF *FRANCIS WILLUGHBY* Esq;

BEING

An Epitome of the Art of FOWLING,

Collected out of *Markham*, *Olina*, and others.

IN delivering the Art of Fowling, or taking of Birds, there are two methods that might be observed.

The first proceeding according to the Engines and devices that are made use of for taking them.

The second according to the several sorts of Birds to be taken.

In the first method might be first an enumeration made of the several Engines and Instruments, as Nets, Springes, and Snares, Traps and Pit-falls, Guns and Cross-bows, Bird-lime, Baits, and Animals, *viz.* Hawks, and Dogs. Then, going particularly over each Instrument or Engine, might be shewed, 1. The several sorts and fashions of each. 2. The various ways of using each sort. 3. What kind of birds are to be taken each way.

But I shall chuse rather to use the second method, following therein *Markham* in his Treatise on this Subject, intituled *Hungers prevention, or the Art of Fowling*, to whom I must profess my self beholden for the greater part of this Discourse, which I shall divide into two Sections; in the first treating concerning the taking of *Water-fowl*, in the second concerning the taking of *Land-fowl:* To which last I shall annex three Chapters: The first, concerning the making of Birdlime; The second, concerning the election and training up of a Setting-Dog; The third, containing an Abridgment of some Statutes relating to the preservation of Fowl.

SECTION I.

Of the taking of Water-Fowl.

Chap. I.

How to take Water-Fowl with Nets.

§. I.

How to take Cloven-footed Water-Fowl with Nets.

MAke your Net of the strongest and best-twined Pack-thread, with large meshes, at least two Inches from knot to knot: For the bigger the mesh, so the birds cannot creep through, the better. The Net must not be above two fathoms deep, and six long at the most: A Net of that size being as great as a man is well

well able to throw over. It muſt be verged with a ſtrong cord on each ſide, and extended ſtiff upon a long Pole at each end: Then having obſerved the Morning and Evening-feeding of the Fowl (which is ſeldom in one and the ſame place) be ſure to come two hours before thoſe feeding times (which are twilight in the Morning, and after Sun-ſet at Night) and upon theſe haunts ſpread your Nets ſmooth and flat, ſtaking down the two lower ends firm on the ground, ſo that they may only come and go, and no more. The upper verge of the Net muſt ſtand extended on the long Cord, the further end whereof muſt be ſtaked down to the earth, two or three fathoms from the Net, (the Stake ſtanding in a right line with the lower edge of the Net) the Fowler holding in his hand the other end (which ſhould be at leaſt ten or twelve fathom long) at its diſtance: where he ſhall make ſome artificial ſhelter of graſs, ſods, earth, or ſuch like matter, where he may lie out of ſight of the Fowl. Be ſure that the Net lie ſo tickle, that upon the leaſt twitch it will riſe from the earth, and fly over. Strow over the Net ſhort dead fog and other graſs to hide it as much as may be from the view of the Fowl. It would be of advantage, cloſe to your Net to ſtake down a live *Heron*, or other Fowl you ſpread for, formerly taken, for a ſtale, making her now and then flutter her wings. When you ſee a competent number of Fowl within the danger of your Net, draw your Cord ſuddenly aud cover them. This you may do till the Sun be almoſt half an hour high, but no longer, for after that time no more Fowl will come to feed; and at Evening from Sun-ſet till the Stars begin to appear. Thus you may take not only the greater Water-fowl, but *Plover* and others.

§. II.

How to take whole-footed Water-fowl with Nets.

MAke your Nets of the ſmalleſt and ſtrongeſt Pack-thread; the Maſhes of leſs compaſs than the forementioned; let them be 2 ½ or 3 foot deep; for length according to the Rivers and Waters they are to be pitched over. Let them be lined on both ſides with falſe Nets of ſtrong Packthread, every Maſh being 1 ½ foot ſquare, that as the Fowl ſtriketh either through or againſt them, the ſmaller Net may paſs through the great Maſhes, and ſo entangle them.

Theſe Nets you ſhall pitch for the Evening-flight of Fowl before Sun-ſet, and ſtake them faſt down on each ſide the River, the lower ſide of the Nets about half a foot within the water, the upper ſide ſhoaling ſlantwiſe againſt the water, yet not touching it by a foot and half at leaſt. The ſtrings that ſupport this upper ſide muſt be faſtned to ſmall yielding ſticks prickt in the bark, which as the Fowl ſtriketh may give liberty to the Net to run and entangle them: Yet one end ever made ſo faſt that the Net may by no means be carried away. You may thus place divers of theſe Nets over the River about twelve ſcore one from another.

If there be any Fens, Plaſhes, or Pits at a good diſtance from the River, go to them, and ſhooting off a piece twice or thrice, raiſe the Fowl from thence, which will preſently pack to the River, then plant your Nets of the middle ſize upon the ſmall Plaſhes and Pits, and the longeſt of all upon the Fens: In like manner if there be any covert of Sedge, Reeds, Ruſhes, *&c.* in the water, pitch Nets about them alſo.

In the Morning go firſt to the River about an hour or two before day, and ſee what your Nets have taken, and unlade them: Then if you find there be many Fowls upon the River, ſhoot off your Gun in one or two places, and that will quickly ſend them to the Fens, Plaſhes, and blank waters, whither you may repair about Sun-riſing, and ſee what your Nets have taken there.

Chap. II. §. I.

How to take Water-Fowl with limed ſtrings.

AFter you have found and obſerved the haunts of the Fowl, provide a long line made of ſmall cord, knotted here and there, and well limed over; and a burthen of little ſticks, ſharp at the nether end, and with a little fork at the upper. If it be for the Evening-flight, come to the place an hour before Sun-ſet; if

if for the Morning, at leaſt two hours before day [obſerve the ſame times in going to prick down Lime-rods,] and prick them down a little ſlanting, ſo as they may be within a foot and half of the ground at the uttermoſt, in even rows all over the place of haunt, one row diſtant from another a yard or two, and one ſtick from the next in the ſame row four or five yards. Then lay the limed ſtrings on the forks ſome rows higher than others, like waves. Faſten the ends with a ſlipping loop, ſo that upon any violent ſtrain the limed ſtring may looſen and lap about any thing that toucheth it. And ſo you ſhall take a great number of Plover or other Fowl that fly in a broad ſquadron, and ſwoop cloſe by the ground a good diſtance before they light.

In like manner you may take whole-footed Water-fowl, liming your ſtrings with ſtrong and water-tried Lime, placing the ſtrings over the Water as you did over the Land, only making your forked ſticks ſo much the longer, obſerving never to lay them in the Moon-ſhine, but either in dark nights, or ſhady places. They may be placed either ſo near the water as almoſt to touch it, or higher, not exceeding a foot and half. Theſe birds, though many times they fly in ſingle files, yet when they come down, ſpread themſelves ſo, as to alight all as it were together upon the water: And ſo by this Artifice they may be taken many together.

§. II.

How to take Water-fowl with Lime-twigs.

YOu muſt provide good ſtore of rods; the beſt are ſmall, long, ſtreight twigs of Willow, cut of even length, leſs for ſmall fowl, and greater for greater, yet all ſo light and ſlender, as to be apt to play and wind about any thing. The length muſt be ſuited to the place where they are to be uſed. Smear above half their upper ends with Birdlime, and holding them to the fire make the Bird-lime melt and run upon them, that the Rod may not be diſcerned from the Lime.

Then at the times before directed go to the haunts: And firſt in the very middle of the place pin down for a ſtale a live-fowl of the ſame kind you lay for, yet ſo that ſhe may have liberty of wing to flutter up and down at pleaſure. Round the Stale every way, all the place over, prick down your Lime-rods in rows, at about a foot diſtance from each other, aſlope, with their points bending to the wind, or croſs-wiſe, one to the wind, and one againſt it alternately, their tops being a foot from the ground or better. This done, place a Stale or two more aloof from the Lime-rods; and having found a fit place for your ſelf to lie conceal'd in; with a ſmall, long ſtring faſtned to each Stale, and running along the ground to you, when you ſee or hear any Fowl coming, ſtir the Stales, and make them flutter: and upon ſight of them the Fowl will preſently ſtrike and ſwoop in among them, and ſo be entangled by the Rods.

You muſt have a well-taught Water-Spaniel to find and fetch ſuch as flutter away and hide themſelves.

Whole-footed Water-fowl may in like manner be taken with rods ſmeared over with ſtrong Water-lime, which no moiſture or froſt can injure. Prick theſe Rods in the water, the limed part being above water, [and amongſt them ſtake down here and there a Stale,] all over any Fen or wadeable River, and alſo upon the dry banks and borders ſurrounding ſuch Waters, ſo thick that a Fowl may not creep between them, fixing alſo a Stale or two there.

You need not wait continually on your Rods; only come firſt early in the Morning, ſecondly at Noon, thirdly, late at Night, alway attended with your Spaniel, and take what you find: If any of your Rods be miſſing, employ your Spaniel for finding out the Fowl that carried them away, whether fluttered into the River, or crept into any holes of the Bank, Ruſhes, Sedge, or other Covert.

When your ſport begins to decay, and the Game leaves the haunt, immediately find out a new haunt that is untroubled, and do as before directed; and after about a months reſt the firſt haunt will become as good as before.

For Wild-gooſe or Bernacle ſet of your greateſt Rods upon green Winter corn, either Wheat or Rie, but eſpecially Wheat, on which this ſort of Fowl feed moſt earneſtly. [The browneſt Rods, and neareſt the colour of the earth are beſt] Set your Rods eſpecially about and in the middle of the water-furrows. Theſe are very ſhie Fowl, and therefore you muſt ſtand at a good diſtance upon ſome knob or higher ground;

ground; and when by fluttering of the Fowl touch'd, and ſudden riſing of the reſt you perceive any are taken, make in and take them up; and if any half limed be flitting away, let your Dog fetch them.

It will not be amiſs, if when you have placed your Rods, you beat the Fowl off from all other haunts, which will make them come the ſooner to that where your Rods are placed.

* Out of the Epit. of Huſbandry.

** How to take Snipes with Water-Bird-lime.*

Take two or three hundred Birch-twigs, and lime forty or fifty of them together very well: Then finding out the haunt of *Snipes*, which you ſhall perceive by their Dung, and in very hard weather where the water lies open they will lie very thick. Then obſerving the place where they moſt feed, ſet two or three hundred of your twigs at a yard diſtance, and ſloping ſome one way, ſome another. Retire two or three hundred paces from the place, and you ſhall find, that there ſhall not one Snipe in ten miſs your twigs, by reaſon they ſpread their wings, and fetch a round cloſe to the ground before they alight. When you ſee any taken, ſtir not at firſt, for he will feed with the twigs under his wings, and as others come over the place he will be a cauſe to entice them. But when you ſee the coaſt clear, and but few that be not taken, go and take up your Birds, and faſten one or two, that the other flying over may come to the ſame place. If there be any other open places there by, put them off thoſe haunts. They will lie where it is open and a Spring very much; for they can feed in no hard place by reaſon of their Bills. In a Snow you ſhall have them extraordinary thick upon ſuch a place.

Chap. III.

How to take Water-fowl with Springes and Snares.

HAving found the haunts where theſe fowl do uſually feed, and noted well the furrows and water-tracks where they commonly ſtalk and paddle to find worms, flote-graſs, roots and other ſuch like things on which they feed, you ſhall mark where many furrows meet in one, and break out as it were in one narrow ſtream or paſſage, and ſo deſcending afterwards divide into other parts and branches, this middle part or core being the deepeſt, and as it were feeding the reſt; then noting how every furrow breaketh and cometh in this Center or little Pit, you ſhall mark which is moſt padled with the Fowl: which found out and noted; you ſhall acroſs all the other paſſages make as it were a Fence of ſmall ſhort ſticks prickt down into the ground, at half an Inch diſtance, ſtanding about an handful or ſomewhat more above water. The Fowl (ſuch is their nature) will not preſs over theſe Fences, but ſtray about till they find the open way, wherein they will run up ſwiftly, padling up and down for their victuals. This done, take a good ſtiff ſtick, cut flat on one ſide, and prick both ends down into the water or earth on one ſide the track, the bow running parallel to, and not croſſing the track. Then you ſhall make a bow of ſmall Hazle or Willow in the faſhion of a Pear, [rather narrower] the one end running out as it were in a foot-ſtalk, longer or ſhorter, greater or ſmaller, according to the bigneſs of the Fowl you ſet for, This is to anſwer the bridge in a Mouſe-trap, and therefore we will call it the Bridge. Then take a good ſtiff young Plant of Hazel or Elm, ruſhy grown, and clean without knot, and having made the bottom end ſharp, at the top you ſhall faſten a very ſtrong Loop or Swickel of horſe-hair. [This Loop is alſo to be made greater or leſſer, of more or fewer horſe-hairs, according to the bigneſs of the birds you ſet for] tied very faſt together with ſtrong Packthread, and made ſo ſmooth and yare that it will ſlip and run at pleaſure. Hard by this Loop or Swickel ſhall there alſo be faſtned, within an Inch and half of the end of the Plant a little broad thin Tricker, ſuch as they uſe to ſet up Mouſe-traps with.

Theſe things thus prepared, take your Loop of Hazel or Withy made Pear-wiſe, and lay ing it croſs the track, hang the bowed end of it on a little Peg or Hook driven down into the ground on one ſide the track, the other end or ſtalk of it muſt be put underneath the bout of the firſt-mentioned bowed ſtick, and near the end of the

ſtalk

ſtalk of it muſt be a nick cut in. Then having thruſt down the ſharpned end of the Hazel-plant faſt into the ground on the bank or ſide of the track, bring the ſmaller end with the Loop and Tricker to the Bridge: Then put one end of the Tricker under the bout of the firſt mentioned ſtick, and the other end in the nick made in the ſtalk or end of the Bridge; this will keep the Hazel-plant bent down. Then lay the Loop of horſe-hair upon the Bridge ſo conveniently wide, as that the Bird may tread in the middle of it upon the Bridge, which ſhe ſhall no ſooner do, but up will fly the end of the Hazel-plant, and the birds foot be caught in the nooſe or ſlipping Loop of horſe-hair. This is ſomewhat difficult ſo clearly to expreſs in words as that any man may readily underſtand and conceive it. *Markham's* deſcription is ſo imperfect and obſcure, that I could make nothing of it.

How to catch Woodcocks in Snares.

This Bird being wont to walk ſtreight forwards in any furrows or tracks, the Fowlers make little pads or walks for them in the places where they haunt, of a Palm broad, ſtreight and equal, and in them ſet many Snares made of horſe-hair ſuch as are deſigned *Figure* 2. This bird being ſufficiently ſimple, once got into one of theſe pads runs ſtreight on from end to end without any heed-taking, and ſo is caught by the neck in ſome of theſe ſnares.

We in *England* are wont to make great Glades through thick Woods, and hang Nets acroſs them: And ſo the Woodcocks ſhooting through theſe Glades, as their nature is, ſtrike againſt the Nets, and are entangled in them.

Chap. IV.

An approved way to take a Heron; out of the Epitome of the Art of Husbandry.

A Heron being as great a devourer of Fiſh as any is, I will affirm ten times as much as the *Otter*, and ſhall deſtroy a Pond more in one Week than an *Otter* ſhall do in three Months: For I have ſeen a *Heron* that hath been ſhot at a Pond to have ſeventeen Carps at once in his belly, which he will digeſt in ſix or ſeven hours, and to fiſhing again. I have ſeen a Carp taken out of a Herons belly nine Inches and an half long: Several Gentlemen that have kept them tame, have put fiſh in a Tub, and tried the Heron how many ſmall Roches and Dace he would eat in a day, and they have found him to eat above fifty a day, one day with another. One Heron that haunts a Pond in a year ſhall deſtroy one thouſand ſtore-carps; nay, one thouſand five hundred in half a year. Now the beſt way to take this great enemy of Fiſh is this: Having found his haunt, get three or four ſmall Roches or Daces and having a ſtrong Hook with a Wire to it, draw the Wire juſt withinſide the skin of the fiſh, beginning without ſide of the Gills, and running it to the tail, and then the fiſh will lie five or ſix days alive: For if the fiſh be dead, the Heron will not touch him. Let not your Hook be too rank. Then having a ſtrong Line made of Silk and Wire, about two yards and half long (if you twiſt not Wire with your Silk his ſharp Bill will bite it in two immediately) and tie a round ſtone of about a pound weight to the Line, and lay three or four Hooks, and in two or three nights you ſhall not fail to have him if he comes to your Ponds. Lay not your Hooks in the deep water, where the Heron cannot wade to them; for if you do, they may lie long enough before you ſee any effect of your pains. Colour your Line of a dark green, for a Heron is a very ſubtle bird.

Chap. V.

Of the Fowling-piece, and Stalking-horſe.

THe beſt Fowling-pieces are the long-barrelled [of five and a half or ſix foot] of an indifferent bore [ſomewhat under Harquebuſe] for they hold the beſt charges, and carry the furtheſt level; and ſuch as have Fire-locks.

The charge muſt be round hail-ſhot, of bigneſs according to the Game you ſhoot at.

As near as you can ſhoot with the wind, and ſideways of, or behind the Fowl: And if poſſible under the ſhelter of ſome hedge, bank, or tree, *&c.* ſometimes (if need be) creeping on your hands and knees. Chuſe rather to ſhoot at a rank or file than a ſingle fowl; and then ſend your Dog for what you have ſtrucken. You muſt have your Dog in ſuch true obedience as not to ſtir from your heels till you bid him go.

Where you have no ſhelter uſe a Stalking-horſe, which is any old Jade trained up for that purpoſe; which being ſtript naked, and having nothing but a ſtring about the nether Chap, of two or three yards long, will gently, and as you have occaſion to urge him, walk on the banks of Brooks and Rivers, or Meadows and Moors, or up and down in the water, which way you pleaſe, flodding, and eating on the graſs and weeds that grow therein; and ſo hardy as not to take any affright at the report of your Piece. You ſhall ſhelter your ſelf and your Piece behind his fore-ſhoulder, bending your body down low by his ſide, and keeping his body ſtill full between you and the Fowl. Then having choſen your mark, take your level from before the forepart of the Horſe, ſhooting as it were between the horſes neck and the water, which is more ſafe than taking the level under the horſes belly, and much leſs to be perceived; the ſhoulder of the horſe covering the body of the man, and his legs alſo the mans legs. Whiles you are ſtalking you may leave your Dog with your Bags, *&c.* where he may lie cloſe, and never ſtir till you have ſhot, and then upon the leaſt call (but not before) come to you, and fetch forth what you have killed.

For want of a live-horſe you may make an artificial ſtalking-horſe of Canvas, either ſtuft, or hollow, and ſtretcht upon ſplints of wood or ſtrong Wires, with his head bending down, as if he grazed, of due ſhape, ſtature, and bigneſs, painted of the colour of a horſe [the darker the leſs apt to be diſcovered.] Let it be fixt in the middle to a ſtaff with a pick of Iron, to ſtick it in the ground while you ſhoot.

Inſtead of a horſe you may make and uſe the ſhape of an Oxe, Stag, or any other horned beaſt, painted of the uſual colour of beaſts in that Country, and having the natural horn or head.

N. Theſe Engines are to be employed in thoſe places where the birds are uſed to ſee, and be acquainted with the beaſts they repreſent.

N. 2. Theſe Engines are fitter for Water than Land, the water hiding their imperfections.

When you have ſo much beaten the fowl with the Stalking horſe that they begin to find your deceit, and will not ſit: Then you may otherwhiles uſe your Oxe-engine, till the Horſe be forgotten, and ſo by change of your Engines make your ſport laſt. The ſhape of a Stag may be uſeful in ſuch places where Stags commonly feed, and are familiar with the Fowl, but they are ſubject to quicker diſcovery.

Some ſtalk with dead Engines, as an artificial Tree, Shrub, or Buſh, or a dead Hedge. But theſe are not ſo uſeful for the ſtalk as the ſtand: It being unnatural for dead things to move, and the Fowl will not only apprehend, but eſchew it. Therefore if you uſe them, you muſt either not move them at all, or ſo ſlowly as that their motion ſhall not be perceived.

SECTION II.

Of the taking of Land-Fowl.

Chap. I.

Several ways of taking them by night.

§. I.

Of taking Birds with the Low-bell.

THis is of use chiefly in Champain Countries, and that from the end of *October* till the end of *March* following.

About eight of the clock at night, the Air being mild, and the Moon not shining, take your Low-bell, of such size as a man may well carry it in one hand, having a deep, hollow, and sad sound; and with it a Net of small Mash, at least twenty yards deep, and so broad as to cover five or six ordinary Lands, or more, according as you have company to carry it: and go into a Stubble-field [a Wheat stubble is the best.] He that carries the Bell must go foremost, and toll it as he goeth along as solemnly as may be, letting it but now and then knock on both sides. Then shall follow the Net born up at each corner, and on each side. Another must carry a pan of live coals, but not blazing. At these, having pitcht your Nets where you think any Game is, you must light bundles of Hay, Straw, or Stubble, or else Links and Torches, and with noises and poles beat up all the Birds under the Net, that they may rise, and entangle themselves in it, and you take them at pleasure. Which done extinguish your Lights, and proceeding to another place, do as before.

N. The sound of the *Low-bell* astonies the Birds, and makes them lie close; and the blaze of light dazling their eyes affrights them, and causes them to rise and make to it.

N. 2. In this pastime all must be done with great silence, no noise being heard but the *Low-bell* only, till the Nets be placed, and the Lights blazing, and then you may use your pleasure: Which once extinguished, a general silence must be again made.

§. II.

Of taking Birds with the Trammel.

THe Trammel is much like the Lowbelling Net, only it may be made somewhat longer, but not much broader. This Net, when you come to a fit place, spread on the ground, and let the hinder end thereof, being plummed with lead lie loose on the ground, but the foremost end at the two corners be born up by the strength of men, a full yard or more from the ground, and so trail the Net along the ground. On each side the Net some must carry great blazing Lights of fire, and by the Lights others must march with long Poles, to beat up the Birds as you go, and as they rise so take them. In this sort you may go over a whole field, or any other champain ground.

§. III.

How they take Birds in Italy *by night with a Light and a Net called* Lanciotoia.

THis sport is most used in the Champain of *Rome*. The Net is of the Mash of an ordinary Lark-net. It is fastned to two green sticks of pliant wood, twice so big as ones greatest finger, and *two or three [Roman] yards long. These sticks must be fastned to the end of a square baston of two yards and half long in two holes, a little distant the one from the other, and covered with the same Net. [This Baston serves for a handle to carry and mannage the Net with, and may be as well round as

* About a yard, or yard and half English.

ſquare, and then the whole Inſtrument will ſomewhat reſemble a Racket, ſuch as they play at Tenniswith.] Theſe two ſticks ſerve to extend the Net at top to about four yards breadth. This Net the Fowler carries on his ſhoulder, holding the handle of it in one hand, and a Lanthorn called *Frugnuolo*, with a Lamp burning in it in the other; and when by the light he diſcovers any Bird within his reach, he claps his Net upon it, and covers it. Beſides the Lanthorn the Fowler carries a Bell either at his Girdle, or his Knee, (like our Low-bell) the better to ſecure the birds to himſelf. This exerciſe cannot be uſed at all times, but only in Autumn or Winter, not beginning before one hour of the night. Whether the weather be cloudy or clear it is all one, ſo the Moon ſhine not.

The *Frugnuolo* is a ſort of Lanthorn made of Latten (commonly, but falſly, called Tin) all cloſe but the fore-ſide. Its Baſe about a *Roman* Palm and half long, and at the aperture about a Palm broad, or a little more; likewiſe a Palm high: The Cover (which goes ſhelving) two Palms long: In the midſt thereof above is a handle, and within ſide a thin plate of Iron three fingers diſtant from the beginning of the Cover, to preſerve the Tin from being burnt and marred by the flame of the Lamp. Below is another empty handle to put in a ſtick to hold it up on high. Within, in a Circle made on purpoſe in the bottom, is put an earthen Lamp with a great Week, and Oyl. With this kind of Lamp they alſo ſearch buſhes, hedges, and low trees, where they think Thruſhes and other Birds pearch, and having diſcovered them, ſtrike them down with an Inſtrument called *Ramata*, made like a Racket with a long handle, or if they be out of reach of that, ſhoot them with a Croſs-bow.

§. IV.

Of Bat-fowling.

BAt-fowling is a taking by night of great and ſmall Birds, that reſt not on the ground, but pearch on ſhrubs, buſhes, trees, *&c.* and is proper to woody and rough Countries.

Firſt, one muſt carry a Veſſel with fire (as in Low-belling) then others muſt have Poles bound with dry Wiſps of Hay, Straw, pieces of Links, pitcht Hurds, or any other combuſtible matter that will make a blaze. Others muſt bear long Poles with rough and buſhy tops. When you are come to the Birds haunts, kindle ſome of your fires, and with your Poles beat the buſhes and trees: Which done the Birds (if any be) will riſe, and fly to, and play about the Lights: It being their nature not to depart from them, but almoſt ſcorch their Wings in the ſame, ſo that they who have the buſhy Poles may at their pleaſure ſtrike them down and take them.

Others carry with them a great Lime-buſh made of the head of a Birch or Willow Tree, and pitching it down make their blazes cloſe by it; and the birds will come and light upon it, and ſo be entangled.

In this Sport you muſt obſerve the directions given in Low-belling as to the choice of the night, and eſpecially keeping ſilence, *&c.*

Chap. II.

Of taking Land-fowl with Nets.

§. I.

A general way of taking many ſorts of Land-fowl by the Crow-net.

THE Crow-net is the ſame in all reſpects with that deſcribed *Chap.* I. This Net may be placed near any Barn-door where Corn is winnowed, or in a Corn-ſtubble, or on the Greenſword in the Morning and Evening haunts of any Birds where they gather Worms. Where-ever placed it muſt be carefully hid and concealed, as much as may be, from the view of the Birds, as if near a Barn-door by caſting Chaff upon it, *&c.* Obſerve alſo, firſt to have ſome Covert to hide your perſon in, where you may ſee, and not be ſeen. Secondly, not to be too haſty in ſtriking, but ſtay till you have a full number under the reach of your Net, and then pull freely and quickly.

§. II.

§. II.

Of taking Birds with Day-nets.

THE time of the Year for these Nets is from *August* till *November:* Of the Day a little before Sun-rise, so as your Nets may be laid, and all your Implements in readiness to begin your work by peep of Sun. The milder the Air, and the clearer and brighter the Morning, the fitter is the season for this exercise. The best place is in Champain Countries, remote from any Town, Village, or common concourse of people, on short Barley stubbles, smooth green Layes, or level Meadows; if the place be not naturally even and plain where you pitch your Nets, you must make it so: That both lying and falling over they may couch so close that the shortest grass or stubble appearing through them, they may as it were not creep or lie hid and unperceived by the Birds, and that being covered they may [illegible] or flicker from under them.

Let your Nets be made of very fine Packthread, knit sure, the Mash not above an Inch square. Let them be about three fathoms long, and not above one deep, verged on each side with strong small Cords, the ends extended upon two small Poles as long as the Net is broad, *&c.* in all things like the Net described §. I. save that that was to be but one single Net, but here you must have two exactly of the same size and fashion, and placed at that distance, that when they are drawn the sides may just meet and touch one another. Your Nets being staked down with strong stakes, so that with any nimble twitch you may cast them to and fro at pleasure; some twenty or thirty paces from the Nets place your Giggs on the tops of long Poles, turned into the wind, so as they may play and make a noise therein. These Giggs are made of long Goose-feathers in the manner of Shuttle-cocks, and with little turnels of wood running in broad and flat Swan-quills, made round like a small hoop, and so with longer strings fastned to the Pole, will with any small wind twirl and flicker in the Air after such a wanton manner that the Birds will come in great flocks to wonder and play about the same. After the placing of your Giggs, you shall then place your Stale, which is a small stake of wood to prick down fast in the earth, having in it a Morteise hole, in which a long slender piece of wood, of about two foot, is so fastned that it may move up and down at pleasure, and to this longer stick you shall fasten a small Line, which running through a hole in the stake aforesaid, and so coming up to the place where you sit, you may by drawing the Line up and down to you (with your right hand) raise and mount the longer stick from the ground, as oft as you shall find occasion.

Now to this longer stick you shall fasten a live Lark, or Bunting, (for you must be sure ever to preserve some alive for that purpose) or for want of such, any other small Bird, which the Line making to flicker up and down by your pulling, will entice the Larks to play about it, and swoop so near the ground, that drawing your hand, you may cover them with your Nets at pleasure: Also it will entice Hawks and any other Birds of prey to stoop and strike at the same, so as you may with ease take them.

There is also another Stale, called the Looking-glass; and this is a round stake of wood as big as a mans Arm, and made very sharp at the nether end, so as you may thrust and fasten it into the earth at your pleasure. This Stake is made very hollow in the upper part, above five fingers deep at the least; into this hollowness is placed a three-square piece of wood, about twelve Inches long, and each square two Inches broad, lying upon the top of the Stake, and going with a foot into the hollowness, which foot must have a great knob at the top, and another at the bottom, with a deep slenderness between them, to which slenderness must be fastned a small Packthread, which running through a hole in the side of the Stake, must come up to the seat where you sit. Now the three-square piece of wood, which lies on the top of the Stake, must be made of such a true poise and evenness, and the foot in the Socket so round and smooth, that upon the least touch it will twirl and turn round like a Scoperil, winding the Packthread so many times about it, which being suddenly drawn, and as suddenly let go again, will keep the Engine in a perpetual round motion, like a Childs Mill, made of a Nut, a stick, and an Apple. This done, you shall with Glue or other strong Cement fasten upon the uppermost squares of the three-square piece about twenty small pieces of Looking-glass, and paint all the spare-

wood

wood between them of a very bright red colour, which in the continual motion and turning about will give such a glorious reflection, that the wanton Birds cannot forbear, but will play about it with admiration till they be taken.

Now both these Stales are to be placed in the very midst between the two Nets, and about two or three foot distant one from another, so that in the falling of the Nets the Cords may by no means touch or annoy them. Neither must they stand one before or after another, but in a direct Line one over against another, the glass being kept continually moving, and the Bird very oft flickering. When you have thus placed your nets, Giggs, and Stales, you shall then go to the further end of your long drawing Lines, and Stale-lines, and having a little Hassock made of Sedge, about a foot or better high, you shall place it within a yard or little more of the end of the same: And then sitting down upon the Hassock lay the main drawing Line (with a strong button of wood made fast in the same) upon your thigh, and with your right hand continually draw the great Line, and with your left the Stale-line, and when you shall perceive the Larks and other birds to play near and about your Nets and Stales, swooping near and to the end, you shall then with both hands pull the Net over, and cover and take your prey. If the weather be good be not too hasty to pluck at a single bird, but stay till you see many playing about your Nets.

Behind the Seat you sit on lay your spare Instruments and Implements which you are to use about the whole Work, as Spare-stakes, Poles, Lines, Packthread, Knitting-pin and Needle, your Bag with Stales, a Mallet to knock in your Stakes with, and a nimble little Hatchet to make new Stakes with, or sharpen them,

"There may be other devices to move the Stales, besides these here described by "*Markham*, but these being as commodious as any, I shall forbear to trouble the "Reader with the mention of more. These Nets may be made use of as well upon "Hills and rising grounds as upon Plains, provided the *Area* on which they lie be le-"vel and even: near waters also, and in high ways and walks of Gardens, *&c.*

Olina describes the manner how these Nets are to be employed for taking of Starlings. Having observed (saith he) where those birds haunt most, provide your Nets six paces long, and eight Roman Palms deep, of a small Mash, having their drawing Line of fifteen paces, Moreover, you must get a Cage of five Palms high, with a middle floor; in the upper Story whereof you shall put about one hundred live Stares, and in the lower others which are to serve for Stales. Those in the upper room are to call the wild Stares; and they must have their meat put all in one Vessel, and their water in one Cup, and that so strait, that they can drink but one at a time; likewise the day before they are to be used they should have no meat of two hours before night, that so being hungry, and striving to get to the meat and drink, they may make the greater screaming noise and cry. The live Stales (four in number) must be tied by the tails, each with a string, and by that string fastned one by one to a couple of sticks joyned together across between the Nets, to which cross a Cord is fastned that reaches to the Fowler, by the plucking whereof he may at pleasure move the Stales. In this manner of fowling are also to be used about twenty or twenty five Jackdaws, or such like birds-cases stuft, and set out like live birds, and these placed in order between the Nets for dead-stales, the four live-stales being next the Fowlers Cabbin. Let the dead stales be placed with their heads to the wind, that it do not ruffle and discompose their feathers.

The same Author gives us also an account of the manner how they take *Lapwings* with the Day-nets.

The Nets for this use are to be of ten paces length, of a large Mash, having a drawing Line fifteen paces long. Between the Nets are to be placed fifteen or twenty dead Stales, that is *Lapwings* dried, or the Cases of *Lapwings* stuft, and set out as if they were alive: And besides those two live-stales, which must be used and set as the *Starling*-stales, and have meat given them to eat. Observe in like manner to set the heads of your dead Stales against the wind. To entice the Birds you must counterfeit their note or cry by a *Lapwing*-call.

§. III.

How to take Larks with Nets, called by the Italians Pantiere.

THese Nets are about four [Roman] yards deep, or a little more, of the same Mash with the ordinary Day-nets, strung on the upper side on a Cord, upon which they run with a row of little Rings, whereby they may be drawn out, or run up together as one pleases. These Nets are supported by two or three Stakes, or more, according to the wideness of the place where they are set. They are to be put in order two hours before Sun-set, for the Evening-driving; and for the Morning-driving, before break of day; in stubble-fields. About Musket-shot from the Nets two men on foot holding a rope of twenty or twenty five yards long, one at one end, the other at the other, must begin and walk towards the Nets, drawing the Rope over the stubble, and so raising the Larks that lie scattered up and down the field: the which will not take wing, but run forward before the rope, till at last they come within the Nets, which being not stretcht out streight, but easily running up, the more they struggle and fly about, the more they are entangled.

§. IV.

How the Italians take small Birds with a Net called Ragna.

THe place for using these Nets is a Grove, (called from the Nets *Ragnaia*) which ought to be remote from high ways, and defended from the North-wind; which is very disagreeable and distasteful to the Birds, especially *Thrushes* and *Beccafigos*, besides the danger of the Woods being wholly or in part blasted by it. Wherefore it should be situate in some Valley, or on the side of a little Hill exposed to the South. Through it, or beside it should run some River, Brook, or other stream of water issuing from a quick Spring, that fails not in Summer. If it be so situate as to be encompassed on all sides with cultivated fields, in which grow some scattering Fig-trees, it will be the better. This Grove is wont to be made six, eight, ten, or twelve times so long as it is broad, according as the place will permit: In it long-ways must be drawn three, five, or seven walks, as it is broader or narrower. In case it hath not a natural fence or hedge you must make an artificial one, which must be tall and thick to keep beasts out, and birds in, and even on the top.

The Grove within must be planted with Juniper, Bays, Mastic-tree, Lime-trees, Oaks, Elms, and many other trees but especially Fig-trees. At the roots of such trees as cast their leaves plant Vines. Many other instructions and directions he hath about the Plantation, which who so pleases may see in him.

The Nets are exactly like those described, Section I. *Chap.* I. §. II. only the Mash somewhat less, they being for small birds. The two out-side Nets or false Nets along their upper edge must have Iron or Horn-rings, and by them be put upon a strong Cord. The middle or true Net must also be verged with a Cord. These Nets, one, two, or more of them, must be placed in the middle of the Grove, and crossing it; fastned by the top-cords to two great Poles or Pillars, made with winding steps round to mount up them; and on their tops having little rundles to draw the Lines nimbly, and stretch out the Nets. The bottom of the Nets, or that side next the ground must have many strings hanging down from it, two or three Palms distant one from another, which are to be tied down to certain Pegs fastned in the earth. The middle Net, which must be the deeper, will fall down sufficiently in a lump or furl between the two side-ones, therefore with a Cane you must draw it gently through the Mashes of the false Nets, especially about the middle of the Nets, making in each Mash a kind of purse or pouch, that when any Bird strikes against it, it may more readily run through the Mashes of the false net, and so catch the Bird as it were in a Bag.

The time for catching is either in the Morning early, before the Birds are gone out to feed, or at Even when they come to roost. At each end of the Grove in every walk one person must march forward toward the Net, making a noise as he goes with a Cane or Saff, and throwing stones or clods of earth, if it be for *Beccafigos*: But if it be for *Thrushes*, at first he must walk quietly and leisurely, without making much noise; and as he comes nearer the Nets, so make greater hast and more noise. Whence

it

it is wont to be ſaid: *For Thruſhes a wiſe man, and for Beccafigos, a fool or mad man.*

To hinder the Birds from mounting and flying away, ſome are wont to turn off a Sparhawk, or other little Hawk with Bells at her heels to ſoar aloft and hover over the Grove. Others are wont to do the ſame only with a pair of wings, and a Bell on the top of a Pole. When you ſee no more birds ſtirring, looſening the top-cords let down and furl up your Nets, with the birds in them; and either carry them home in the Net, or take them out at pleaſure.

§. V.

Of the Sparrow-net.

THe Sparrow-net is made up of two croſs-ſtaves, a Purſe-net, and two ſtrings. The form of this Net you may ſee expreſſed *T. 2 f. 7* in which A F B repreſents the longer croſs-ſtaff, whoſe direct piece muſt be of the bigneſs of a handſom Hawks Pole; its tranſverſe piece A B like the head of an ordinary hay-rake, but bigger and longer: C E D the ſhorter croſs-ſtaff, joyned to the longer at E, ſo looſely as to fall to and fro at pleaſure, of ſuch due height and length, that when the croſs pieces meet they may joyn even and juſt. C A E B D is a Purſe-net, faſtned to both croſs-ſtaves all along, and having that liberty at top, that the croſs-ſtaves may fall and part one from another at a pretty diſtance; its bottom being faſtned to the longer ſtaff at E. C A E, D B E are two ſmall cords faſtned to the two ends of the ſhorter croſs-ſtaff, and paſſing through two holes in the ends of the longer croſs-ſtaff, tied together at E, at ſuch diſtance that the ſhorter ſtaff may fall from the longer as far as you ſee meet, or the wideneſs of the Net will give leave. To the knot of the two Cords muſt be made faſt a ſingle Cord E G, which you muſt carry in your right hand, that you may at pleaſure draw the croſs-ſtaves cloſe together, and let them open as need ſhall require.

This Net is to be uſed late in the Evening, or early in the Morning, by ſetting it againſt the Eves of thatcht Houſes, Stacks, Hovels, Barns, Stables, Dove-coats, *&c.* and being ſo ſet knocking and thruſting the croſs-ſtaves cloſe againſt the ſame, making ſuch a noiſe as may inforce the Birds to fly out of their holes or haunts into the Net; and then preſently drawing the Line E G, and ſo ſhutting up the croſs-ſtaves encloſe them, and letting down your Net, open it, and take them out.

The chief benefit of taking Birds in this manner is for the mewing of Hawks, or getting into luſt and ſtrength ſick and weak Hawks: Becauſe with this Engine you may take Evening and Morning ſo many birds as you pleaſe, and give them warm to your Hawk, which is the greateſt nouriſhment that can be, raiſing a Hawk ſoon, and making her mew faſt.

Chap. III.

How to take ſeveral ſorts of ſmall Birds and other Land-fowl with Bird-lime.

§. I.

Of taking ſmall Birds with the Lime-buſh, and Lime-twigs.

YOur Lime-buſh muſt be a main bough of any buſhy tree, as Birch or Willow, or for want of them, Sallow, Poplar, or Aſpen; whoſe twigs are long, ſmooth, and ſtreight, without pricks, knots, or any other roughneſs or crookedneſs; having pickt and trim'd it (yet not taking away any of the little bud-knots) lime every twig and branch from the top down within four fingers or thereabout of the bottom. The body and main branches muſt not be touched with any Lime at all. Dabble not on your Lime too thick, nor yet let any part be left bare, or want its proportion, that ought to be limed.

Your Buſh thus prepared, carry it forth into the fields where the haunts of the ſmall birds are, and place it as near as you can to any of theſe haunts, if it be a hedge or

or tree close to them, *&c.* provided that where-ever you pitch it down, you may very near it have some close Covert to lie concealed in, and there chirp like a Sparrow, or call with a note like the Linnet or Bull-finch [as the Cocks use to do when they miss the Hens, or the Hens the Cocks] altering your note according to your fancy, but continually calling in one note or other. This Art and Ability is gotten by diligent observing the Birds notes abroad, and by practice. But if you cannot frame your mouth to these sounds, get you a Bird-call; and having learnt how to use it Artificially, you shall sit in your Covert, and call the Birds to you: And when you see any of them light upon your Bush let them alone, and move not till you see them safely entangled, which their own skipping up and down, and strugling when they find themselves snared, will do better than any affright from you whatsoever: Neither shall you stir for a single Bird or two, but stay till many be entangled: For the first that are taken will with their striving and fluttering in the bush be as good as Stales, and make a world of others repair to them, which you may then take: And this exercise you may continue from before Sun-rise till ten of of the Clock in the Forenoon, and from one in the Afternoon till almost Sun-set in the Evening.

If you want a Call you may make use of a Stale; as of a Bat or two, placed next to your Lime-bush in such apparent manner that no bird thereabouts but may behold them; which will no sooner be perceived, but every bird will come to gaze and wonder at them: Then having no other convenient lighting place but the Lime-bush, they will flock as thick into the same as may be, and so you may take them at pleasure. So the Owl may in like manner be employed, which by reason she is more melancholy and less stirring than the Bat, and also of greater bulk, and sooner perceived, is a better Stale than the Bat. For want of a live Owl or Bat the skin of either stuft, or an artificial Owl made of wood and painted may serve the turn.

Others take these small birds with Lime-twigs only, by rising early in the Morning before break of day, and going to the haunts, and there watching when the Birds go forth to seek their food (which is ever at the spring of the day) and then finding that they have forsaken the hedges, they place their Lime-twigs all along those hedges, some upright, some slope-wise, and some across; and withal so thick, that the Birds can come no way into the hedge, but of force they must be entangled. This done they go into the Corn-fields, Meadows, or Grounds adjoyning, where the Birds feed, and there beating them up and scaring them, make them retire to the hedges in great flocks, where they are presently entangled among the Lime-twigs, and taken in abundance. But this manner of taking is only for the Spring and Fall of the Leaf; and only for one certain time of the day, *viz.* an hour before and after Sun-rise.

§. II.

An excellent way of taking small Birds with Birdlime; out of the Epitome of Husbandry.

THis is best done in a Snow. When you see the Birds flock together about your house or fields; chuse out one hundred large Wheat-ears; cut the straw about a foot long besides the ears; From the bottom of the Ears to the middle lime the straw for about six or seven Inches; let your Lime be warm, that so it may run thin upon the straw, and be less discernable to the Birds. Go then to the place, and carry a little bag of Chaff and threshed Ears, and scatter these fourteen or fifteen yards wide. Then take the limed Ears, and stick them up and down in the Snow, with the Ears leaning, or with the end touching the ground. Then retire from the place, and drive the Birds from any other haunt, and you will see presently great flocks repair thither, and begin to peck the Ears of Corn, and fly away with them, which as soon as any of them shall do, the straw that is limed laps under his Wing, and down he falls, not perceiving himself to be entangled: For I have seen many eat their Ears when they have been fast limed under the Wing. In the field you will take most Larks. For Sparrows stick your Ears upon the house-tops, though you never get the Birds. Every dozen of Sparrows you take in Winter shall save you a quarter of Wheat before Harvest.

Take away all your limed Ears, and in the Afternoon bait the place with a bag or two more of Ears and Chaff, and let them rest till Morning, that the birds may feed boldly, and not be affrighted; then take some fresh Ears, and stick them up as you did before.

§. III.

How to take Fieldfares with Birdlime : out of the ſame.

WHen time is, that is about or after *Michaelmas*, ſhoot a *Fieldfare* or two, and ſet them in ſuch order that they may ſeem to ſit alive on a tree. Then having prepared the Lime-twigs about two or three hundred, take a Birchen bough, and cut off all the ſmall twigs, make little holes and clefts all about the bough, and there place your Lime-rods: Then ſet the *Fieldfare* upon the top bough, making him faſt, that he may ſeem alive. Let this bough be ſet near where they come in a morning to feed, (for they keep a conſtant place till their food is gone) that ſo flying near they may eſpy the top-bird: which as ſoon as they do, they will fall down in whole flocks to him.

§. IV.

How to take Pigeons with Lime-twigs : out of the ſame:

GEt a couple of Pigeons dead or alive; if dead, yet order them ſo as to ſtand ſtiff as if they were living and feeding. Then at Sun-riſing take your twigs, what quantity you pleaſe: Let them be very ſmall [Wheat-ſtraws are as good or better] and place them on the ground which the Pigeons frequent, where your two Pigeons are ſet; and you ſhall find you will quickly be rid of them. Two or three dozen is nothing to take in a Morning if there come good flights.

§. V.

How to take Crows, Pies, Gleads, &c. with Lime-twigs : out of the ſame.

STick up Lime-twigs on the Carcaſs of a dead Horſe newly ſtript, or any other Carrion, ſo ſoon as theſe birds have found it. Let them be very ſmall, and not too thick ſet; leſt they perceive them, and take diſtaſte.

§. VI.

How to take Crows and Rooks when they pull up Corn by the roots : out of the ſame.

TAke ſome thick brown Paper, and divide a ſheet into eight parts, and make them up like Sugar-loaves: Then lime the inſide of the Paper a very little [Let them be limed three or four days before you ſet them.] Then put ſome Corn in them, and lay fifty or ſixty of them up and down the ground, as much as you can under ſome clod of earth, and early in the Morning before they come to feed. Then ſtand at a good diſtance, and you will ſee excellent ſport. For as ſoon as Rook, Crow, or Pigeon comes to pick out any of the Corn, it will hang upon his head, and he will immediately fly bolt upright ſo high that he ſhall ſeem like a ſmall bird, and when he is ſpent, come tumbling down, as if he were ſhot in the Air.

§. VII.

How to take Stares with a limed ſtring : out of Olina's Uccelliera.

TAke a ſmall ſtring of a yard or thereabout long, bind it faſt to the Tail of a Stare, having firſt carefully limed it all over, excepting one Palm next the bird. Having found a flock of Starlings, come as near to them as poſſible, holding your Stare by the wings as near as you can, and let her go to her fellows, which as ſoon as you ſhew your ſelf to them, will preſently take wing: Your tail-tied Stare endeavouring to ſecure her ſelf of her liberty, thruſting her ſelf into the middle of her fellows, will entangle many of them, and ſo not being able to fly, they will afford a pleaſant ſpectacle in tumbling down to the ground: where you muſt be ready with a Bruſh or Beſom to ſtrike them down.

Many

Many other devices there are to take several sorts of birds with Lime-rods, &c. which I think needless to set down; it being not difficult for an ingenious Fowler to invent as good or better, when he shall have opportunity of taking those kinds of Birds.

Chap. IV.

Of taking Birds with Baits.

This way is not for taking birds to eat, but for destroying noisom and ravenous Fowl, as Crows, Ravens, Kites, Buzzards, &c.

For the effecting whereof, 1. Observe their haunts. 2. Remember the hours or times of day when they are most sharp-set and greedy, as early in the Morning, so soon as they unpearch themselves; and again at Even a little before Sun-set, especially at that time of the year when they have young ones; for then they will with greediness seize any bait, as fast as you cast it out. 3. Take a pretty quantity of *Nux Vomica*, and dissolve it in Wine Vinegar, or Wine-Lees, [those of sweet Wine are the best.] Then take the garbage of any Fowl, and all-besmear them over with your Solution of *Nux Vomica*, and cast them forth where such noisom birds haunt: and watching the birds in a convenient place, you shall see that after swallowing a bit or two, any such Fowl will presently grow dizzy, reeling and tumbling up and down, till at last it fall into a dead swoon.

Others take pretty big gobbets of raw lean flesh, as Beef, Mutton, &c. and making therein secret little holes, put in them small pieces of *Nux Vomica*, and close them up again.

You may also instead of either make use of Carrion, and either smear it with your Confection, or stop into the fleshy part of it small pieces of *Nux Vomica*.

It is best to let these baits lie loose, and not fasten them to the ground, as some practise.

To take granivorous birds of the greater kind, as Doves, Rooks, &c. boil good store of *Nux Vomica* together with Wheat, Barley, Pease, or any other Pulse very well in ordinary running water, till the Grain be ready to burst, then take it from the fire, and cover it till it be throughly cold. The Grain thus boiled and steept scatter thick where these Fowl frequent, and it will have the like effect upon them, as the Garbage or Carrion had upon the carnivorous.

For small birds boil your *Nux Vomica* with such seeds as they most delight in, *viz.* Hemp-seed, Rape-seed, Lin-seed, and above all Mustard-seed; and they will be in like manner entoxicated.

Some instead of *Nux Vomica* take only the Lees of Wine (which the sharper they are, the better) and in them boil and steep, or only steep (which is as availeable if continued a sufficient while) their Grain or Seeds, and scatter them as above directed.

Others take the juyce of Hemlock, and steep in it their Grain or Seeds, mixing therewith a pretty sprinkling of Henbane and Poppy seeds, letting all stand in steep two or three days at least, and then drain it, and scatter it, &c. which will have the like effect with the *Nux Vomica*.

To recover any Fowl of these baits, take a little quantity of Sallet-oyl (according to the strength and bigness of the Fowl) and drop it down its throat; then chafe the head well with Vinegar, and the Fowl will presently recover again, and be as healthful and able as ever it was.

Chap. V.

Several ways of taking Partridges.

§. 4.

How to take Partridges and other Birds with a Setting-dog.

A Setting-dog ſhould be a luſty Land-Spaniel, that will range well, and yet at ſuch abſolute command, that when he is in his full career one hem of his Maſter ſhall make him ſtand ſtill, gaze about him, and look in his Maſters face, as it were expecting directions from him, whether to proceed, ſtand ſtill, or retire: but the main thing he is to be taught is, when he ſees and is near his Prey of a ſudden to ſtand ſtill, or fall down flat on his belly, without making any noiſe or motion till his Maſter come to him.

For taking *Partridge* with him; when you come into the fields where Partridges frequent, caſt off your Dog, and let him range or hunt, taking care that he range not too far from you, but beat his ground juſtly and even, without caſting about and flying now here and now there, and skipping many places (which the mettle of many even good dogs will make them apt to do.) If he do ſo, call him in with a hem, and threaten him with a ſtern countenance; and when he doth well encourage him. When you ſee him make a ſudden ſtop or ſtand ſtill, be ſure he hath ſet the Fowl; therefore preſently make in to him, and bid him go nearer; if he refuſes, but either lies ſtill or ſtands ſhaking of his tail, and withal now and then looks back upon you, he is near enough: Then begin your range or circumference about both the Dog and Partridge, not ceaſing, but walking about with a good round pace, looking ſtill before the Dogs noſe, to ſee how the Covey lies, whether cloſe together in a heap, or ſcattering. Then charging the Dog to lie ſtill, draw forth your Net, and opening of it, take you one end of the top-cord, and your Companion the other, and holding it ſtretcht, run with the Net againſt the Dog, and clap it down over the Birds, covering Dog and all with it: then make a noiſe to ſpring the Partridge, that they may riſe, and be entangled in the Net: Some obſerve to run with their Net againſt the wind, to keep it fully extended. One man may make a ſhift to do all: But then he muſt peg down one end of his Net to the ground, and taking the other end ſpread it over the Birds.

The Italians (as *Olina* tells us) are wont to purge their Dog before they go a Setting with him: giving him a morſel made up of half an ounce of *Agarick*, and two drachms of *Sal gemmæ*, mingled with honey of Roſes, covered over with Butter, or ſome other unctuous matter, that he may the more readily ſwallow it: And the day following a broth made of a Weathers head, boild ſo, as with the fleſh of it, bread, and a little Brimſton pounded, to make a ſup. He bids you alſo obſerve, 1. Not to hunt your Dog (eſpecially after he hath been new purged) till the Sun hath dried up the dew; becauſe elſe he will be apt to loſe the ſent, and alſo hurt his feet. 2. To begin to ſet on your Dog under the wind, that he may take the ſent the better. The Net (he ſaith) ought to be a little longer than it is broad or deep; *viz.* between ſeven and eight yards over, and between eight and nine deep.

In this manner may be taken, not only Partridges, but Pheaſants, Moor-pouts and Quails.

§. 1.

Of the haunts of Partridges, and how to find Partridges.

THe haunts wherein Partridges moſt delight, and moſt conſtantly abide, are Corn-fields, eſpecially during the time the Corn is ſtanding, under the Covert whereof they meet and breed. After the Corn is cut down they ſtill remain in the Stubbles, eſpecially Wheat-Stubbles, both becauſe they love to feed on that grain before all others, and alſo for the height of the Stubble, which affords them ſafer covert. When the Wheat-ſtubble is either too ſcanty, or too much ſoyled and trodden with Men and Cattel, they leave it and go to the Barley-ſtubbles, which though inferiour in both reſpects, yet being freſh, and not ſo uſually trodden and beaten, they take

take great delight therein. In Winter when these ſtubbles are either plowed up, or over-ſoyled with Cattel, manure, or the like, then they reſort to the encloſed grounds, or upland-Meadows, and lodge in the dead graſs or fog, under hedges, among Mole-hills, and under banks, or at the roots of trees. You may alſo find haunts of Partridges in ſmall Coppices or Underwoods, in Buſhy Cloſes, or where there grows Broom, Brakes, Furze, or Ling, or any other Covert: Provided always, that there be ſome Corn-fields adjoyning, elſe they will rather avoid ſuch places. In Harveſt-time when they can have no quiet lodging in the Corn-fields, you may find them in the day-time in the Fallows adjoyning, where they will lie lurking among the great clods and weeds; and only early in the Morning, and late at Evening fetch their food from the corn-ſheaves next adjoyning.

Now for finding them, ſome will do it by the eye, like hare-finders, *viz.* In taking their ranges over the ſtubble fields, or other haunts, caſting their eyes on each hand, they will eſpy them out though never ſo cloſe couched; which ability partly depends upon the goodneſs of the eye, partly is acquired by practice and exerciſe, by diligently obſerving the true colour of the Partridge, how it differeth from the ground, and alſo the manner of their lying. This is the eaſier done, becauſe when you have once (as you think) apprehended them with your eye, you may walk nearer and nearer till you are abſolutely ſure you ſee them, provided you be ever moving, and ſtand not ſtill or gaze at them (for that they will not abide) elſe they are ſo ſlothful and unwilling to take wing, that till you be ready to ſet your foot upon them, they will not ſtir.

Others find them by the haunts and places where they laſt coucht: which they know partly by their dung there left, which if new will be ſoft, and the white part of it colour their fingers; and partly by their padlings or treadings, which if new will be ſoft and dirty, and the earth new broken of a darker colour than the mould about it; and being very new indeed, the place where they ſate will be warm, and the ground ſmooth and flat with ſome ſmall feathers or down ſcattered upon it. If you find ſuch a haunt, you may be confident the birds are not far off. Therefore look carefully about you, eſpecially down the Lands, walking leiſurely; and in a ſhort time you will eſpy them: which as ſoon as you do, you ſhall preſently wind off from them, and by no means look towards them, and ſo fetch a large circumference round about them, keeping an ordinary round march, making your compaſs leſs and leſs, till you have diſcovered the whole Covey.

Others find them by going early in the Morning, or at the cloſe of the Even, (which are called *Juking* times) into their haunts, and there liſtning for the calling of the Cock-Partridge, which will be very loud and earneſt, to which after ſome few calls the Hen will make anſwer; which as ſoon as they hear they liſten till they meet, which they ſhall very well perceive by their chattering and rejoycing one with another. Then they take their range about them, drawing nearer and nearer as before, till they diſcover the whole Covey.

But the beſt, ſafeſt, eaſieſt, and moſt pleaſant way of finding them is by the *Partridge*-call. Having learnt the true and natural notes of the *Partridge*, and being able to tune every note in its proper key, and knowing the due times and ſeaſons for every note, ſo as fitly to accommodate them, go forth either Morning or Evening to their haunts, and having conveyed your ſelf into ſome cloſe place, ſo as to ſee and not be ſeen, liſten a while if you can hear the *Partridge* call. If you do, anſwer them again in the ſame note, and ever as they change, or double, or treble their note, ſo ſhall you likewiſe, plying ſtill your Call till you find them draw near to you. For this calling is ſo natural and delightful to them that they will purſue it as far as they can hear it. Having drawn them within your view, caſt your ſelf flat upon your back, and lie without moving as if you were dead, and you ſhall then ſee them running and pecking about you without any fear, ſo as you may take a full view of them, and if you pleaſe count their number.

§. II.

How to take Partridge with Nets.

THeſe Nets may be made in all points like the * Pheſant-nets, only the Maſh ſomewhat ſmaller; but they would be much better were they ſomething longer and broader. Having found the Covey, draw forth your Nets, and taking a large Circum- * See *chap.* 6. §. 3.

Circumference about them, walk a good round pace with a careleſs eye, rather from than toward the Partridge, till you have fitted your Nets, and then draw in your Circumference leſs and leſs, till you come within the length of your Net, where, as you walk about, (for no ſtop or ſtay muſt be made) prick down a ſtick of about three foot long, and to it faſten one end of the Line of your Net: Then letting the Net ſlip out of your hand, ſpread it as you go, and ſo carry it and lay it all over the Partridges. If they lie ſtragling, that one Net will not cover them, draw out another, and do in like manner; and alike with a third, if needs be. Then ruſh in upon them, and with an affrighting voice force them to ſpring up, and preſently they will be entangled in the Nets.

§. III.

3. *How to take Partridges with Lime.*

TAke of the largeſt and ſtrongeſt Wheat-ſtraws, or for want thereof Rie-ſtraws, and cutting them off between knot and knot, [the loweſt joynts are the ſtrongeſt and beſt] Lime them well over, and coming to the Partridge-haunts, after have called a little, and find that you are anſwered, prick down your ſtraws round about you in rows, as above directed for Lime-twigs, not only croſs the Land, but the Furrows alſo, taking in at leaſt two or three Lands; and that not very near, but at a pretty diſtance from you, yet ſo as to diſcern when any thing toucheth them. Then lie cloſe, and call again, not ceaſing till you have drawn them towards you, whither they cannot come but they muſt paſs through the limed ſtraws, which they ſhall no ſooner touch but they will be entangled; and by reaſon they come flocking together like ſo many Chickens, they will be ſo beſmear and dawb one another, that if there be twenty, hardly one will eſcape.

This way of taking Partridge can only be uſed in Stubble-fields, and that from *Auguſt* to *Chriſtmas*: If you would take them in Woods, Paſtures, or Meadows with Lime, you muſt uſe the ordinary Lime-rods before deſcribed, and prick them down, and order them in all points like as is directed for your Lime-ſtraws.

§. IV.

How to drive Partridges and Quails, and take them in tunnelling Nets.

FIrſt provide you a ſtalking Horſe, or an Engine made like a Horſe or Oxe, ſuch as we have deſcribed *Sect.* 1. *Chap.* 4. Then go with your Nets to the Partridges haunts, and having found the Covey, pitch your Net in the ſecreteſt and likelieſt place, ſo as to drive them down the wind. Lay not your Net flat on the ground, but ſet it ſlopewiſe, and ſo over-ſhadow it with boughs, ſhrubs, weeds, or ſome other thing that groweth naturally on the ground it ſtandeth on, that nothing may perceive it, till it be entangled. Then having covered your face with ſome hood of green or dark blew ſtuff, ſtalk with your Horſe or Engine toward the Birds by gentle and ſlow ſteps, and ſo raiſe them, and drive them before you (for it is their nature to run before a Horſe or Beaſt out of fear leſt it tread on them.) If they chance to run any by-way, or contrary to what you would have them, then preſently croſs them with your ſtalking Horſe, and they will ſoon recoil, and run into any track that you would have them, and at laſt into your Net.

The Net they uſe in *Italy* for this purpoſe is called *Butrio* or *Cuculo*, and made with two wings and a tunnel ſtretcht with hoops, See Figure 9. Tab 2. The Fowler ſtalks with a Bell in his hand, which he now and then rings.

With the ſame Net they alſo take Quails, pitching juſt before the tunnel of the Net two Poles, with five Cages hanging upon each, having live Quails in them, which ſerve to call and entice the wild ones. Before the Nets they caſt Millet or Panic ſeed to invite them in. The drive them forward a man walks on each ſide the Net with a jingling Inſtrument [*Sonagliera*] in his hand firſt one, then the other ſounding from hand to hand. The Net is to be pitcht three or four hours before day, and the Birds driven early in the Morning: If the Moon ſhines you may drive at any time of the night.

Chap. VI.

Several ways of taking Pheasants, as

§. I.

With Nets.

Pheasants delight most in thick, young, well-grown Coppice Woods, unfrequented and free from the footsteps and tracings of Men and Cattel: not in tall high woods of timber-trees.

Having found their haunts and breeding places, you may find their Eye or brood several ways: as first, by the eye, searching up and down the haunts, and bushes, *&c.* Secondly, By coming early in the Morning, or late in the Evening, and observing the old Cock and Hens calling, and the young birds answering them, and by that sound guiding your self, till you come as near as you can to the place where they meet, lying down there so close that you may not be discerned, and yet may exactly observe where they lodge, and accordingly where and in what manner to pitch your Nets. Thirdly, Which is the most sure and easie way, by an exact and natural Pheasant-call: wherewith you must learn to imitate all the Pheasants several notes and tunes, applying each to the right time and purpose, when and for which she uses it, whether it be to cluck the young ones together to brood them, to call them to meat when she hath found it, to chide them for straggling, to call them together to rejoyce and wanton about her, for all which she hath a several note. The most convenient hours for the use of the Call are before or about Sun-rising, and somewhat before Sun-set, at which times they straggle abroad to seek their food, and then your note is to call them to their food, or give them liberty to range. But if you will call them after Sun-rise or before Sun-set, your notes must be to cluck them together to brood, as also to chide them for straggling, and put them in fear of danger. The notes of rejoycing or playing are rather for finding the old Couples when they are separated.

Being come to the haunts you shall lodge your self in the most likely place for your purpose, as close as possible, and then begin to call, first in a very low note, (lest the Pheasants be lodg'd near you, and then a sudden loud note may affright them) but if nothing reply, raise your note by degrees to the highest pitch, yet by no means over-straining it, or making it speak untunably; and if there be a Pheasant in the Wood within hearing of it she will presently answer, and that in your own note and key. If this call back be but from one single bird, and come from far, then you shall as secretly as you can creep nearer to it, still plying your call; and you shall find that the Pheasant that answereth will also come nearer to you. The nearer you come, the lower observe to make your Call speak, as the Pheasant her self will do, and her in all points you must imitate as near as you can; and in the end you will get a sight of her, either on the ground, or on the boughs of some low tree, as it were prying to find you: Then ceasing your Call a while, spread your Net as secretly and speedily as may be, in the convenientest place between you and the Pheasant, upon the lowest shrubs and bushes, making one end fast to the ground, and holding the other end by a long Line in your hand, by which when any thing straineth it you may draw the Net close together, or at least into a hollow compass. Which done, you shall call again; and then as soon as you shall perceive the Pheasant to come just under your Net, you shall rise and shew your self, that by giving him an affright, he may offer to mount, and so be entangled in your Net.

If many answer your Call from several quarters of the Wood, stir not at all, but ply your Call, and as they come nearer to you, spread your Nets in the most convenient places round about you; and when they are come under the Nets, boldly discover your self, to give the affright, and make them mount.

§. II.

Of the driving of Pheaſants.

IT is only Pheaſant-Pouts that can be thus taken. Having found the eye of Pheaſants by any the forementioned means, you muſt then (taking the wind with you, for they will naturally run down the wind.) In the little pads and ways, which you ſee they have made, (for they will make little tracks almoſt like ſheeps tracks) and as near as you can to ſome ſpecial haunt of theirs, (which you ſhall know by the barrenneſs of the ground, mutings, and looſe feathers you ſhall find there) place your Nets hollow, looſe and circular wiſe, their nether part being faſtned to the ground, and upper lying hollow, looſe, and bending, ſo that when any thing ruſheth to it, it may fall and entangle it. Which done, you muſt go where before you found the haunt, and there with your Call, if the Eye be ſcattered, call them together; then taking your Inſtrument called a *Driver*, made of good ſtrong white Wands or Oſiers, ſet faſt in a handle, and in two or three places bound with croſs Wands; of the ſhape of thoſe Wand-dreſſers (which Cloth-workers uſe in dreſſing of Cloth) therewith make a gentle noiſe upon the boughs and buſhes, which the Pouts hearing will preſently run on a heap together from it a little way, and then ſtand ſtill and liſten. Give then another rack or two, at which they will run again as before, and thus by racking and ſtriking you may drive them like ſo many ſheep which way you pleaſe, (croſſing them, and racking as it were in their faces, if they chance to go a wrong way) till you have brought them all into your Nets.

In this driving be ſure, 1. To conceal your ſelf from the ſight of the Pheaſants, For if they perceive you, they will inſtantly ſcatter and run one from another, and hide themſelves in holes, and bottoms of buſhes, and not ſtir from thence upon any occaſion as long as any day endureth. And therefore it were not amiſs to wear over your face a green hood, and a Wreath of green leaves about your head, and trim your Garments with branches and leaves of trees. 2. To take time and leiſure, and not do any thing raſhly. For any thing done ſuddenly or raſhly to theſe fearful Creatures breeds offence and amazement: And a ſcare being taken, though but by one bird, their fear will not ſuffer them to argue or diſpute the object, or ſtay till every one have beheld the thing ſuddenly affrighting them; but away they all fly at the very firſt apprehenſion, in an inſtant. And therefore if you find any ſtaggering or diſmay among them, preſently ceaſe and lie ſtill as though you were dead, till the fear be over, and they gaze no more about them, but gathering themſelves together do begin to peep and cluck one to another, and rejoyce among themſelves, and then you may fall to your work again.

§. III.

Of taking Pheaſants with the Lime-buſh, or Lime-rods.

YOur Rods muſt be twelve, or at leaſt ten Inches long, well limed down to the middle, and no further. Your Lime-buſh muſt contain not above eight twigs at moſt, being the top-branch of ſome young Willow, with a handle about a ſhaftment long, ſharpned ſo as either you may ſtick it gently into the ground, or prick it into any ſhrub or buſh, where-through the Peaſants uſually trace, or on any ſmall tree where they uſe to pearch, [Place two or three of theſe buſhes there.] Then make uſe of your Call, and you will quickly have all the Pheaſants within hearing about you; and it is a chance but ſome of them will be toucht, and if but one be limed ſhe will go near to lime all her fellows; for what by her ſtrugling amongſt them, and they coming to gaze, ſome will be ſmeared by her, and ſome will light on other buſhes: And if ſome one or two eſcape by mounting, and get to the Pearch, and there (as is the natural quality of them) ſit prying to ſee what becomes of their fellows, it is ten to one but they will be taken by the Lime-buſhes placed on the Pearch. Old Pheaſants when you call, oftentimes will not come on the ground, eſpecially in Winter, but mount and come flying from Pearch to Pearch, till they come to that next you, ever prying and peeping to find him out that calleth, where they will probably be taken.

It very requiſite to keep an exact account of all your Lime-buſhes and Rods, and when you have gathered up your Pheaſants, ſee what buſhes or rods you have miſſing; for if you miſs but one of them, you may be aſſured that there are ſome limed which you have not found: And therefore never be without a Spaniel that will lie cloſe at your foot, and that will fetch and carry, and neither break nor bruiſe fleſh nor feather, to hunt out and bring you all the birds that ſhall ſo lie hid.

The Lime-rods may be placed not only upon buſhes and ſhrubs by Pheaſants tracks, but alſo upon the ground in open places between thicks in ſuch order as is directed above, neither too thick and apparent ſo as to breed affright, nor ſo thin as to let any eſcape, leaving about the length of a Rod or leſs between Lime-rod and Lime-rod.

The Seaſon for uſing of Lime is from the beginning of *November* till the beginning of *May*, for during that time the twigs of trees (on which Birds pearch) are void of leaves, and like to Lime-twigs. The time for the uſe of Nets is from the beginning of *May* till the latter end of *October*: during which time the trees are covered with leaves.

The Pheaſant-net would be made of the beſt twined double Houſewives thread, died green or blue, the Maſh almoſt an Inch between knot and knot: It would be in length at leaſt three fathoms, in breadth ſeven foot or better, verged on each ſide with a ſtrong ſmall Cord, and as it were ſurfled thereon; the Net being placed not ſtreight, but thick and large, that at any time when it is extended it may lie compaſs-wiſe and hollow: The two ends likewiſe ſhould be verged with ſmall Cord, yet that more for ſtrength than any particular uſe. The great Nets (which ſome uſe) are cumberſom and hardly manageable, and therefore if occaſion be, it is better take and uſe a couple of ordinary ſize.

Chap. VII. §. I.

How to make the beſt Birdlime according to G. Markham.

TAke at Midſummer of the Bark of Holly ſo much as to fill a reaſonable big Veſſel, and boil it in running water till the grey and white bark riſe from the green; which will take up a whole day or better, Then take it from the fire, and after the water is very well drained, ſeparate from it the barks: Take all the green, and lay it on the ground in a cloſe place, and on a moiſt floor, as in ſome low Vault or Cellar, and cover it all over a good thickneſs with Docks, Hemlock, Thiſtles, and the like green weeds, [or elſe make it up in a heap with Fern S S S, that is, firſt a layer or bed of Fern, then a layer of Bark, then a layer of Fern again, and ſo on interchangeably] and ſo let it lie for the ſpace of ten or twelve days; in which time it will rot, and turn to a ſlimy matter: Then pound it in a large Morter, till it come to be one uniform ſubſtance or paſte, that may be wrought with the hand like dough, without diſcerning any part of the Bark or other ſubſtance. Which done, take it out of the Morter, and carry it to a ſwift running ſtream, and there waſh it exceedingly, not leaving any mote or filth in it, Then put it up in a cloſe earthen pot, and let it ſtand and purge for divers days together, (three or four at leaſt) not omitting to skum it as any foulneſs ariſes, and when no more will riſe, put it into a clean Veſſel, and cover it cloſe, and keep it for uſe.

Now when you have occaſion to uſe it, take thereof what quantity you ſhall think fit, and putting it into an earthen Pipkin with a third part of Hogs greaſe, or (which is better) Capons greaſe, or Gooſe greaſe, ſet it on a very gentle fire, and there let them melt together, and ſtir them continually till they be both incorporated together, and become one entire ſubſtance: Then take it from the fire and cool it, ſtirring it till it be cold.

When it is well cooled, take your Rods, and warming them a little over the fire, wind about the tops of them ſome of it ſo prepared, then draw the Rods one from another, cloſing them again, do this ſeveral times, continually plying and working them together, till by ſmearing one upon another, you have beſtowed upon every Rod a like quantity of Lime, keeping the full breadth of your hand at leaſt free and without any Lime at all, ever and anon warming the Rods before the fire, to make the Lime ſpread on them the better, and to make it lie ſmoother and plainer, that the Fowl may not perceive it, and take affright at it.

As for the liming of ſtraws, it muſt be done when the Lime is very hot, and in ſuch manner as the Rods are done, before the fire, only you muſt not do a few, but a great heap together, as big as you can well gripe in your hands, for ſo they are the ſtronger, and not ſo apt to bruiſe or break in pieces, and therefore in this opening and working of them, you ſhall not do it with a few together, but as many as you can well gripe, toſſing, and turning, and working them before the fire, till they be all beſmeared equally.

Now to preſerve your Lime from freezing even in the ſharpeſt weather, take a quarter ſo much of the Oyl called *Petroleum* as you do of Capons greaſe, and mixing them together well, work it upon the Rods, and it will ever keep your Lime gentle, ſupple, and tough, ſo that no froſt, how violent ſoever, can hurt it.

§. II.

How to make Birdlime according to Olina, *which was the way of the Ancients.*

TAke of the Berries of Miſſelto, as great a quantity as you can get; the more the better: Put them in a moiſt place to putrefie or macerate, and when they are well macerated, take the ſtuff and beat it ſoundly with a round Cudgel [Baſton] till it ſhews clear, without any filth, for that is a ſign that it is done enough. Put it up in a Pot, and keep it in a moiſt place well covered with Parchment.

When you would make uſe of it, put it in a Pan, and to every pound of Lime add an ounce of Oyl Olive, mingling and incorporating of them well at the fire, and when you ſee that they are well mixt and united, and become like an Ointment, take it from the fire, and put thereto half an ounce of Turpentine, and incorporate them well together: and ſo you may employ it to take what you pleaſe. It ſerves alſo for the water. The ſame Author mentions other ſorts of Birdlime brought out of Forein Countries, with which I think it needleſs to trouble the Reader. In a cold and froſty ſeaſon he adviſes inſtead of common Oyl to mingle and incorporate your Birdlime with Oyl of Nuts, which reſiſts the cold better than common Oyl.

§. III.

How to make the beſt water-Birdlime, out of a late Engliſh Writer.

BUy a pound of the ſtrongeſt Birdlime, and having waſhed it nine times in clear Spring-water, till you find it very pliable, and the hardneſs quite gone, beat out the water throughly till you cannot perceive a drop to appear: Then having dried it well, put it into an earthen Pot, and add thereto, 1. As much of the beſt Capons greaſe, without Salt, as will make it run. 2. Two ſpoonfuls of ſtrong Vinegar. 3. A ſpoonful of Sallet-oyl. 4. A ſmall quantity of *Venice* Turpentine, and boil them all gently upon a ſoft fire, continually ſtirring it: And then take it from the fire, and let it cool; when you uſe it, warm it, and ſo anoint your twigs or ſtraws.

Chap. VIII.

Of the election and training up of a Setting Dog.

ALthough the Water-Spaniel, Mungrel, ſhallow-flew'd Hound, Tumbler, Lurcher, or ſmall baſtard Maſtiff may be brought to Set; yet none of them is comparable to the true-bred Land-Spaniel, being of a ſize rather ſmall than groſs, a ſtrong and nimble ranger, of a couragious fiery mettle, a quick ſent, delighting in toil, and indefatigable, yet fearful of, and loving to his Maſter. Of what colour he be it matters not much.

Having gotten you a Whelp of ſuch a Breed, begin to handle and inſtruct him at four or ſix months old at the furtheſt.

1. You muſt make him very loving to, and familiar with you, and fond of you, ſo as to follow you up and down without taking notice of any man elſe, by ſuffering no man to feed or cheriſh him but your ſelf. You muſt alſo make him ſtand in aw of, and fear you as well as love you, and that rather by a ſtern countenance and ſharp words than blows.

2. Then

2. Then you must teach him to couch and lie down close to the ground, first by laying him down on the ground, and saying to him, *Lie close*, or the like, terrifying him with rough language when he doth any thing against your command, and cherishing him, and giving him food when he doth as you bid him. And thus by continual use and practising the same thing, in a few days you shall bring him readily and presently to lie close on the ground, when ever you shall but say, *Couch, down, lie close*, or the like.

3. Next you shall teach him, being couched, to come creeping to you with his head and belly close to the ground so far, or so little way as you shall think good, by saying, *Come nearer*, or the like: First, till he understand your meaning by shewing him a piece of bread, or some other food to entice him. And if when he offers to come he either raise from the ground his fore or hinder parts, or so much as lift up his head, then you shall not only with your hand thrust down his body in such sort as you would have him keep it, but also chide and rate him so as to make him strive to perform your pleasure: And if that will not quicken him sufficiently, to the terrour of your voice add a sharp jerk or two with a Whip-cord lash. When he does your will either fully or in part according to his apprehension chearfully, then you must be sure to cherish him, and to feed him: And then renew his lesson again till he be perfect in it. In like manner you must make him stop and pause when you bid him.

4. Then you shall teach him to lead in a string, and follow you at your heels without straining his Collar, which you may easily do by practice, not striving too roughly with him.

5. When he is thus far taught, you may out into the field with him, and suffer him to range and hunt, yet at such command, that upon the first hem or warning of your voice he stop and look back upon you, and upon the second, that he forthwith either forbear to hunt further, , or else come in to your foot, and walk by you. If in ranging you find he opens, you shall first chide him therefore, and if that prevail not, either bite him hard at the roots of his ears, or lash him with a sharp Whip-cord lash, till you have made him so staunch, that he will hunt close and warily without once opening, either through wantonness, or the rising up of any small birds before him.

When you find that he is come upon the haunt of any Partridge, (which you shall know by his eagerness in hunting, and by a kind of whimpering and whining, as being greatly desirous to open, but for fear not daring) you shall then warn him to take heed by saying, *be wise*, or the like. But if notwithstanding he either rush in and so spring them, or else open or use any means by which the Partridge escapeth, you shall then correct him soundly, and cast him off again in another place where you are sure a Covey lies, and then as before give him warning. And if you see that through fear he standeth still and waveth his tail, looking forward as if he pointed at somewhat, be sure the Partridge is before him: Then make him lie close, and taking a large ring about him, look for the Partridge. When you have found them, if you see he hath set them too far off, you shall make him creep on his belly nearer, else let him lie close without stirring, and then drawing your Net take the *Partridge*. Encourage your Dog by giving him the heads, necks, and pinions of the Partridge, and also bread or other food. But if he chance by any rudeness or want of taking heed to spring them again, you shall correct him as before, and lead him home in your string, and tie him up that night, giving him nothing but a bit of bread and water, and the next day take him out, and do as before, but with somewhat more terrour and harshness, and doubtless the Dog will do according to your will: Which if he doth, you must by no means forget to bestow upon him all the cherishings of voice, hand, and foot.

It is a fault in a Dog to stand upright as it were looking over the Partridge when he sets them, and therefore you must chide him for it, not giving over till you make him lie close.

It is also a fault for him when you go in to the Covey, to spring up the Partridge into your Nets, to rush hastily after you, or spring them before you, for which you must correct him; and your self proceeding leisurely the next time, ever as you go speak to the Dog to lie close.

Chap. IX.

An Abridgment of ſome Statutes relating to the preſervation of Fowl.

NOw leſt any one, either not legally qualified or licenſed, or by taking Fowl at prohibited times, or by prohibited Engines, or by deſtroying of their Eggs, ſhould through ignorance incur the danger of the Law, I have thought fit to ſubjoyn an Abridgement of ſuch Statutes as relate to the preſervation of Fowl, collected and ſent me by my worthy Friend Mr. *Walter Aſhmore*.

25 *H.*8.*c.*11. confirmed 3 & 4 *Ed.*6. *c.*7. None to deſtroy or take away the Eggs of any Wild Fowl on pain of one years impriſonment; and to forfeit for every Egg of a Crane or Buſtard ſo taken and deſtroyed 20 *d.* Of a Bittern, Heron, or Shoveler 8 *d.* Of a Mallard, Teal, or other Wild-fowl 1 *d.* to be divided between the King and the Proſecutor. And herein Juſtices of peace have power to hear, enquire, and determine offences of this kind, as they uſe to do in caſes of treſpaſs. Yet this act not to extend to ſuch as kill Crows, Choughs, Ravens, and Buzzards.

34 *Ed.*3.22. A Hawk taken up ſhall be delivered to the Sheriff, who after Proclamation made in ſeveral Towns, (if challenged) ſhall deliver her to the right Owner. And if the Hawk were taken up by a mean man, and be not challenged in four months, the Sheriff to have her, ſatisfying the Party for taking her: But if by a man of eſtate, who may conveniently keep a Hawk, the Sheriff ſhall reſtore her to him again, he paying for the charge of keeping.

If any take away or conceal a Hawk he ſhall anſwer the value thereof to the Owner, and ſuffer two years impriſonment, and in caſe he be not able to anſwer the value, he ſhall remain in priſon a longer time.

37 *Ed.*3.19. He that ſteals and carries away a Hawk, not obſerving the Ordinance of 34 *Ed.*3.22. ſhall be deemed a Felon.

11 *H.* 7. 17. None ſhall take Pheaſants or Partridges with Engines in anothers ground without licence, in pain of ten pound to be divided between the Owner of the ground and the Proſecutor.

None ſhall take out of the Neſt any Eggs of Falcon, Goſhawk, Lanner, or Swan, in pain of a year and a days impriſonment, and to incur a Fine at the Kings pleaſure, to be divided between the King and the Owner of the ground where the Eggs ſhall be ſo taken.

None ſhall bear any Hawk of Engliſh breed called a Nyeſſe, (Goſhawk, Tarcel, Lanner, Lanneret, or Falcon) in pain to forfeit the ſame to the King.

He that brings a Nyeſſe Hawk from beyond the Seas ſhall have a Certificate under the Cuſtomers Seal where he lands, or if out of *Scotland*, then under the Seal of the Lord Warden or his Lieutenant, teſtifying ſhe is a Forein Hawk, upon the like pain of forfeiting the Hawk.

None ſhall take, kill, or fear away any of the ſaid Hawks from their Coverts where they uſe to breed, in pain of ten pounds.

9 *H.* 3. 13. Every Freeman may have Eyries of Hawks within their own Woods which be within a Foreſt.

23 *Eliz.* 10. None ſhall kill or take Pheaſants or Partridges by night, in pain of 20 *s.* a Pheaſant, and 10 *s.* a Partridge, or one months impriſonment, and bond with Sureties not to offend again in the like kind.

Directions to recover the Forfeitures, *vid.* Statute.

None to hawk or hunt with Spaniels in ſtanding Grain in pain of 40 *s.*

1 *Jac.* 27. No perſon ſhall kill or take any Pheaſant, Partridge, Pigeon, Duck, Heron, Hare, or other Game, or take or deſtroy the Eggs of Pheaſants, Partridges, or Swans, in pain of 20 *s.* or impriſonment for every Fowl, Hare, or Egg, and to find Sureties in 20 *l.* not to offend in the like kind.

No perſon ſhall keep Dog or Net to take or kill any of the laſt mentioned Game, unleſs qualified as in the Act, in pain of 30 *s.*

No Perſon to buy or ſell any Partridge or Pheaſant upon pain to forfeit 20 *s.* for every Pheaſant, and 10 *s.* for every Partridge.

No Perſon to be twice puniſhed for one offence.

Perſons are to be licenſed in Seſſions to kill Hawks meat, and to become bound in 20 *l.* not to kill any of the ſaid Games, nor to ſhoot within 600 paces of a Heronry, within

within 100 paces of a Pigeon Houſe, or in a Park, Foreſt, or Chaſe, whereof his Maſter is not Owner or Keeper.

Every perſon having hawked at, or deſtroyed any Pheaſant or Partridge between the firſt of *July* and laſt of *Auguſt* ſhall forfeit 40 *s.* for every time ſo Hawking, and 20 *s.* for every Pheaſant or Partridge ſo deſtroyed or taken. 7 *Jac.* 11.

This offence to be proſecuted within ſix months after it is committed.

Lords of Mannors and their Servants may take Pheaſants or Partridges in their own grounds or Precincts in the day time between *Michaelmas* and *Chriſtmas*.

Every perſon of a mean condition having killed or taken any Pheaſant or Partridge ſhall forfeit 20 *s.* for each one ſo killed, and ſhall become bound in 20 *l.* not to offend ſo again.

Conſtables and Headboroughs upon warrant to ſearch houſes, and ſeize Dogs or Nets, and deſtroy them at pleaſure.

Lords of Mannors to appoint Game-keepers, who by a Warrant from a Juſtice may in the day-time take and ſeize all Guns, Bows, Grey-hounds, Setting-dogs, Lurchers, or other Dogs to kill Hares or Conies, Ferrets, Trammels, Low-bells, Hays, or other Nets, Hare-pipes, Snares, and other Engines for the taking and killing of Conies, Hares, Pheaſants, Partridges, and other Game within the Precincts of ſuch Mannor, as ſhall be uſed by any Perſon prohibited by that Act to keep or uſe the ſame. 22 & 23 *Car.* 2. c. 25.

Perſons under the value of 100 *l. per annum*; or for term of life, or not having Leaſes for ninety nine years, or for a longer term of the value of 150 *l.* other than the Son and Heir apparent of an Eſquire or other perſon of higher degree, and the Owners and Keepers of Foreſts, Parks, Chaſes, or Warrens, are not to have or keep for themſelves or others any Guns, Bows, Greyhounds, Setting-dogs, Lurchers, Hays, Nets, Lowbells, Hare-pipes, Snares, or other Engine.

THE

LAND-FOWL are either such as have
- *Crooked Beak and Talons* which are either
  - *Carnivorous* and *rapacious*, called BIRDS OF PREY, and these either
    - *Diurnal*, that prey in the day-time
      - The *Greater*, and these either
        - The *more generous*, called EAGLES, The *Golden Eagle*, the *Sea-Eagle*, the *black Eagle*, &c. Part 1. Sect. 1. Chap. 3.
        - The *more cowardly and sluggish*, called VULTURES, Part 1. Sect. 1. Chap. 4.
      - The *Lesser*, called in Latine *Accipitres*,
        - The *more generous*, that are wont to be reclaimed and manned for fowling, called *Hawks*, which our Falconers distinguish into
          - *Long-wing'd*, whose wings reach almost as far as the end of their Train, as the *Falcon*, *Lanner*, &c. Part 1. Sect. 1. Chap. 9.
          - *Short-wing'd*, whose Wings when closed fall much short of the end of their Trains, as the *Goshawk* and *Sparrow-hawk*, Part 1. Sect. 1. Chap. 10.
        - The *more cowardly and sluggish*, or else *indocile*, and therefore by our Falconers neglected and permitted to live at large,
          - The *Greater*; The *common Buzzard*, *bald Buzzard*, &c. Part 1. Sect. 1. Chap. 8.
          - The *Lesser*,
            - *European*; BUTCHER-BIRDS or *Skrikes*. Part 1. Sect. 1. Cha. 11.
            - *Exotic*; BIRDS of PARADISE, Part 1. Sect. 1. Chap. 12.
    - *Nocturnal*, that fly and prey by night
      - *Horned* or eared, as the *Eagle-Owl*, *Horn-Owl*, &c. Part 1. Sect. 2. Chap 1.
      - *Without Horns*, as the *brown Owl*, *grey Owl*, &c. Part. 1. Sect. 2. Chap. 2.
  - *Frugivorous*, called by a general name *Parrots*, distinguished by their bigness into the
    - *Greatest* kind; called MACCAWS, Part 1. Sect. 3. Chap. 2.
    - *Middle-sized* and most common; called PARROTS and POPINJAYES, Part 1. Sect. 3. Chap. 3.
    - *Least* kind; called PARRAKEETS, Part 1. Sect. 3. Chap. 4.
- *More streight Bill and Claws*, distinguishable into the
  - *Greatest kind*; which by reason of the bulk of their bodies and smalness of their Wings cannot fly at all, Exotic Birds of a singular nature; The *Ostrich*, the *Cassowary* and the *Dodo*. Part 2. Sect. 1. Chap. 8.
  - *Middle-sized*; which may be divided by their Bills into such as have
    - *Large*, *thick*, strong, and long ones, feeding either
      - *Promiscuously* upon *Flesh*, *Insects*, and *Fruits*, distinguishable by their colour into
        - *Wholly black*; The CROW-*kind*, Part 2. Sect. 1. Cha. 3.
        - *Particoloured*; The PIE-*kind*, Part 2. Sect. 1. Cha. 2.
      - Upon *Fish*; as the KINGFISHER, &c. Part 2. Sect. 1. Chap. 7.
      - Upon *Insects* only; The WOODPECKER-*kind*, Part 2. Sect. 1. Chap. 5.
    - *Smaller*, and *shorter*; whose flesh is either
      - *White*; The POULTRY-*kind*, Part 2. Sect. 1. Chap. 10, 11, 12.
      - *Black*; the
        - *Greater*; the PIGEON-*kind*, Part 2. Sect. 1. Chap. 15.
        - *Lesser*; the THRUSH-*kind*, Part 2. Sect. 1. Chap. 17, 18.
  - *Least kind*; called *small Birds* which are either
    - *Soft-beak'd*, which have slender, streight, and the most pretty-long Bills; which kind feeds chiefly upon Insects, Part 2. Sect. 2. Memb. 1.
    - *Hard-beak'd*, which have thick and short Bills, and feed most upon Seeds. Part 2. Sect. 2. Memb. 2.

THE SECOND BOOK OF THE ORNITHOLOGY OF FRANCIS WILLUGHBY Esq;

Of Land-Fowl.

The First Part.

Of such as have hooked Beaks and Talons.

The First Section.

Of Rapacious Diurnal Birds.

Chap. I.

Of Birds of prey in general, especially Diurnal ones.

THE Characteristic notes of Rapacious Birds in general are these: *To have a great head*; *a short neck*; *hooked, strong and sharp-pointed Beak and Talons*, fitted for ravine and tearing of flesh: *Strong and brawny thighs*, for striking down their prey: *a broad, thick, fleshy tongue, like a mans*; *twelve feathers in their train: four and twenty flag feathers* [remiges pennæ] *in each wing*; [The number of these feathers can hardly be counted exactly, and doth (I believe) vary in these Birds, the greater kinds having more, the lesser fewer.] *The two* Appendices *or blind guts very short*, so that they seem to be of no use to them, at least when grown up: *A membranous stomach, not a musculous one, or* Gizzard, like granivorous Birds: *To be very sharp-sighted*, for spying out their prey at a distance, *to be solitary, not gregarious*, by a singular providence of nature: For should they, coming in flocks, joyntly set upon Cattel, the flocks and herds of sheep and beasts would scarce be secure from their violence and injuries. This note is not common to all Rapacious birds in general, though *Aristotle* hath delivered for an universal observation, Γαμψωνύχων οὐδὲν ἀγελαῖον, i. e. *No Birds of prey are gregarious.* For *Vultures*, (as *Bellonius* hath observed) fly in company fifty or sixty together: *To be deep-feathered.* The feathers investing their bodies if they be not thicker set, are at least taller or longer than in other birds, so that their bodies seem to be much greater than indeed they are. This note is common to all Rapacious birds, but not proper to them alone. *To be long-lived*, and as is commonly thought, more than other birds, whereof being not yet fully satisfied, I will not rashly affirm any thing, but leave the matter to be determined by experience and diligent observation. But certain it is, (as we have before demonstrated) that all Birds in general, account being had of their bigness, are very long-lived. *To endure hunger* (or *abide without food*) *a long time*, which considering their food and manner of living is almost necessary; seeing their prey is not always ready for them. *The Females are of greater size, more beautiful and lovely for shape and colours,*

colours, ſtronger, more fierce and generous than the Males. For this cauſe ſome will have the Males called *Tarcels*, that is, *Thirds*, becauſe they are leſſer by one third part than the Females. The reaſon of this inequality and exceſs of magnitude in the Females ſome do aſſign, becauſe it lies upon the Females to prey not only for themſelves, but for their Young, therefore it is requiſite they be more ſtrong and generous. Moreover (that we may note that by the by) among the Females themſelves the tokens of goodneſs are taken from their greatneſs; for by how much a *Hawk* is bigger and more weighty, ſo much better is it accounted. So that (as *Tardivus* witneſſeth) in *Syria* Birds employed for Fowling are all bought by weight; and ſo much the dearer by how much they weigh more. Howbeit the *Aſtures* [*Goſhawks*] (if we may believe the *Italian* Proverb) [*Aſtore piccolo & Terzuolo grande*] by how much the leſs they are, by ſo much the more are they eſteemed. Here again *Vultures* are to be excepted, of which the Males are ſaid to equal or exceed the Females in bigneſs. *The Baſis of the Beak is covered with a naked skin or membrane*, which our Falconers call *the Sear*. This note is proper to Rapacious Birds that prey by day; for the night-birds have no ſuch Membrane. *The outmoſt toe is connected with the middlemoſt by an intervening Membrane, as far as the firſt joynt.* This note is common to all *Rapacious Diurnal* Birds, but not proper to them alone, agreeing to many other birds beſides. *The breaſt in moſt Rapacious birds is party-coloured or ſpotted*: In moſt I ſay, not in all; for, the *Vultur Bæticus*, *Milvus Æruginoſus*, and ſome few others are to be excepted. Some others alſo of the forementioned notes are not proper and peculiar to this kind, as for example, *To have twelve feathers in the tail, and to have very ſhort Appendices or blind guts*, which are common alſo to the Crow-kind, and moſt ſmall birds.

Add to theſe, that in Birds of prey the Hook of the upper chap is produced by Age to that length ſometimes, that it hinders their feeding: That the Claw of the outmoſt Toe is the leaſt: That the fleſh of carnivorous birds doth ſooner corrupt and putrefie than of any other: That the interior ſides of their Claws are ſharp-edged: That their Excrements are for the moſt part fluid like milk: That the interior Vanes of the prime feathers of their Wings and Tails have white or pale-coloured croſs bars: That the colour of the back and upper part is for the moſt part brown.

Chap. II.

Of the Eagle in general.

THe Eagle in general may be thus defined, *A diurnal Rapacious Bird of the biggeſt ſort, the moſt generous of all, having its Beak hooked almoſt from the very root.* By its bigneſs it is diſtinguiſhed from the *Hawk*, by its courage and ſpirit and by the kookedneſs of its Bill from the *Vulture*.

There are many things delivered by the Ancients and Moderns concerning the nature and conditions of the *Eagle* in general; which are partly falſe or uncertain, partly common to other Birds of prey.

Of the firſt ſort I take the following to be.

1. That its feet are not equal, but the right bigger than the left.

2. That its feathers being mixt with the feathers of other birds, eſpecially *Geeſe* and *Pigeons*, do waſte and conſume them.

3. That whereas ſhe excels in quick-ſightedneſs, in trying her Young whether they be genuine or ſpurious, ſhe makes uſe of an argument taken from the ſight. For hanging them up by the Claw, ſhe expoſes them to the Sun-beams, and thoſe that ſhe ſees look ſtedfaſtly on the Sun, ſhe keeps and brings up as right-bred, and her genuine Offſpring, but ſuch as turn away their eyes, as not being able to behold it, ſhe caſts away as degenerous.

4. That the *Eagle* as long as ſhe lives changes not her Neſt or Haunt, but returns yearly to the ſame.

5. That after Noon ſhe flies abroad and preys, but all the Forenoon before dinner ſhe ſits idle.

6. That ſhe touches not Carrion or dead Carcaſſes; feeding only upon the fleſh of ſuch Animals as ſhe kills her ſelf.

7. That whereas for the moſt part ſhe hatches two young ones, ſhe brings up but one, caſting out the other, to eaſe her ſelf of the toil of nurſing and feeding it.

8. That

8. That she would not at all hatch her Young, did she not bring the *Eagles stone* [*Aëtites*] into her Nest, which is of wonderful vertue in promoting excluſion.

9. That when the Young are sick, and cannot concoct more solid food, by reason of the weakness of their stomachs, the old ones suck the bloud out of their prey, and feed them therewith.

10. That in extreme old age, when their Beaks by reason of their drineſs are grown so crooked that they cannot feed, they sustain themselves for some time by drinking.

11. That the old ones when they see their young fledged and ready to fly, do carry them up a height, and then let them go, admonishing them as it were by their own peril to make use of their Wings, and by flying through the Air to save themselves from falling. If after they have let them go they fall down to the ground, up they take them again, often repeating this kind of exercise.

12. That she hath an extraordinary care of her Talons, lest by any means they should be blunted. Hereupon in walking she always draws them up, and turns them inwards, refuses to walk in stony places, lest perchance she should wear their points. And if she happens to sit or walk upon Rocks, she spreads under her feet the skins of such Animals as she hath kill'd, lest her Talons should be hurt. Yea so careful is she of them, that where ever she sits, unless she eyes the Sun or her prey, she is always looking at them; fearing lest they should grow too crooked. And if by chance they be blunted, she sharpens them with her Bill, or whets them upon stones, to render them fitter for preying.

13. That when she is enfeebled with old age, she flies as high as ever she can above the Clouds, till the dimneſs of her eye-sight be consumed by the heat of the Sun; then presently descending with all her force, while she is yet in the extremity of heat, she drenches her self three times in the coldest water she can find, and rising up thence streightway betakes her self to her Nest, where among her young now fit for preying, falling into a kind of Fever, with a sweat she casts her feathers; and is by them carefully nurſed up and fed, till she recover her plumage again.

14. Whereas the greatest part of Birds either out of fear or wonder, fly after the *Owl*, she not thinking such carriage to become a Kingly bird, is nothing moved with that spectacle.

Of the latter kind are these.

1. That she doth so excel in quick-sightedneſs, that soaring so high in the air, that she can very hardly be discerned by us in all that light, yet she can espy a Hare lying under a bush, or a little Fish swimming in the water. *Though I grant that both the Eagle and other Rapacious birds are very sharp-sighted, yet do I not think that, their eyes can reach objects at such distances.*

2. That she is indocile and uncapable of Discipline, and not to be tamed by any humane endeavour: But is only carried on headlong by her natural inclination and *impetus*. *This is not universally true. For we have heard of Eagles that have been reclaimed and trained up for fowling. Though it be rarely done.*

3. That her breath smells very ill, so that by reason of the pestiferous stench thereof, the bodies that are blown upon by her do easily putrefie and corrupt.

4. That she is very greedy and almost unsatiable: and therefore if at any time she endures hunger, (of which she is most patient) she recompenses her long fasting by abundant eating and gorging her self. And if her prey be so great and copious that any thing remains when she is satiated, she leaves that to the other birds, which use to follow her in expectation thereof.

5. That almost all Birds of prey live without ever drinking; yet is their belly always loose, and their Excrements fluid. For the bloud of the Animals they kill affords them liquor enough for the concoction and digestion of their meat.

6. That it is very venereous. For the Female being trodden thirteen times a day, yet if the Male doth but call, runs to him again. Now whereas all salacious creatures are thought to be short-lived, one may justly wonder, that the *Eagle* should be the most lustful, and yet withal the most vivacious of Birds.

7. When their young ones are grown up, and come to that age and strength, that that they can without the help of their Parents get themselves meat, they drive them far away from their Nests; nay, they will not suffer them to abide so much as in the same Country.

8. Nature hath given the *Eagle* very thick, hard, and almost solid bones, and in which there is but very little marrow.

All these things we have transcribed out of *Aldrovandus* his *Ornithology*, where occur more such like, which are common to other Rapacious Birds. For besides its eminent Magnitude we do not acknowledge any Characteristic note whereby *Eagles* may be distinguished from *Hawks*. How they are differenced from *Vultures* shall be shewn when we come to treat of *Vultures*.

As for the names of the *Eagles*, it is called *Grecians* Ἀετὸς and Αἰετὸς from the Verb Ἀΐσσω, signifying to rush on or be carried forwards violently with great force and swiftness, because of the swiftness of its flight: By the *Latines* it is named *Aquila*, either *ab acumine visus* from the sharpness of its sight, or from the colour called [*Aquilus*] that is, blackish or dusky, so denominated from water [*Aqua.*]

Chap. III.

Of the several kinds of Eagles.

§. I.

*The Golden Eagle; Chrysaetos *Aldrovandi Ornithologiæ*, lib. 2. cap. 2. *Aquila fulva seu aurea.*

Its Weight. Its Length. Breadth. The Beak. The Mouth. The Tongue. The Palate. The Sear. The neck-feathers. * *Of a rusty colour.* The Eye-lids. The Eye-brows. The Eyes. The Wings. The Train. The colour of the whole body. The Flag-Feathers. The Legs. * *Lib. 2. cap 4. de Avibus.* The Feet. The Talons.

Being put in the balance [*statera*] we found it to weigh twelve pounds. From point of Beak to tip of Tail it was full three feet and nine Inches long. The length from the Bill to the Talons was four spans and an half. The breadth from tip to tip of the Wings extended eight spans. The Beak was one Palm [hand-breadth] and one inch long. For the hooked part alone hung down beyond the lower Chap a full Inch. The breadth of the Bill, especially about the middle was more than two Inches. The hooked part or point was blacker; the rest of the Bill of a horn-colour, inclining to a pale blue, and spotted with dusky. The wideness of the Mouth gaping [*rictus*] was one Palm and an Inch. The Tongue was like a Mans, broad, round, and blunt at the tip, toward the root on both sides armed with two hooked, horny *Appendices*, tied down in the middle to the lower mandible by a thin Membrane. The Palate perforate in the middle. The lower Chap of the Bill channelled, the edges whereof standing upon both sides are received in the upper. The Membrane which arising from the Forehead is extended beyond the Nosthrils, and likewise the borders of the bridle or corners of the mouth are yellow. The feathers of the neck are rigid and *ferrugineous. A certain thick Tunicle stretched forth from below upwards covered the eye in nictation. This Membrane is called in Latine *Periophthalmium*. Two Eye-lids, one above, the other beneath, covered the Eye, although the lower alone extended upward was sufficient to cover the whole Eye. The region of the Eye-brows was very eminent, like that prominent part of the roofs of houses called the Eaves; under which the Eyes lay hid, as it were sunk in a deep cavity. The Eyes were of the colour called *Charopus*, of a fiery splendor, shining forth in a pale blew. The Pupil was of a deep black. It is very admirable to observe what care Nature hath taken, and what provision she hath made for the conservation of the Eyes, than which there is no part in this Animal more excellent. For not being content with one Tegument, as is usual in other Animals, she seemeth to have framed four several lids or covers for them. The *Periophthalmium*, or Membrane for Nictation, is the same thing, and affords the same use to them that the Eye-lids do to a man. Besides which Nature hath superadded two other Eye-lids, and of these the lower so large, that they alone suffice to cover and preserve the Eyes. The colour of the Wings and Tail is dusky, and so much the darker by how much the feathers are bigger. The colour of the rest of the small feathers of the whole body is a dark ferrugineous or Chesnut, sprinkled with white spots, fewer on the back, more on the belly, the bottoms of all being white. Six of the prime feathers on each side were twenty two Inches long apiece, having very firm and hard quills, but shorter than those of *Geese*, and very good to make Writing Pens. The Legs were feathered down to the feet, of a ferrugineous colour. Hence it may evidently appear to any man, how much *Petrus Bellonius* is mistaken in that he writes, that *Eagles* are distinguishable from *Vultures* by one only sign, *viz. having their Legs naked* or *destitute of feathers*, contrary to what we see in *Vultures*. The feet were yellowish: The back-claw of the left foot six Inches in circumference; that of the right foot but four;

so

so great was the difference between them; which I suppose not to have been natural, but induced by force, for this seemed to be maimed. The Talon of the foremost of the fore-toes of the left foot was five Inches in length, that of the middle three and an half, the least two. The Talons of the fore toes of the right foot were bigger, in proportion to the back-claw, than those of the left. Four Semicircular Tables covered each toe near the Talons, excepting the greatest of the fore toes, which had only three* *annuli*. The rest of the feet was covered with Scales about the bigness of millet grains, or somewhat less.

* Rings or annular Scales

If any one desires an Anatomy and description of the inward parts, let him consult *Aldrovandus* in this place: See also here the arguments whereby he proves this bird by him described to be the *Chrysaëtos* of the Ancients; and the notes whereby he distinguishes it from other *Eagles*.

I suspect this to be the same bird with that hereafter described by us under the title of *Pygargus*. The chief difference is, that half the Tail in that is white, whereas in this the whole is of one [dusky] colour.

This with great fierceness flew upon any thing that came in its way: and would with its Beak and Talons assault and strike at Dogs, Cats, *&c.* and even man himself, if they did, before they were aware, approach too near the Cage in which it was shut up. So far *Aldrovandus*: to whom this Bird was sent by the Great Duke of *Tuscany*.

The fierceness of the Golden Eagle.

The Golden Eagle with a white ring about its tail.

We saw three Birds of this sort in the Royal *Theriotrophium* near the *Tower* of *London*, and a fourth in St. *James Park* near *Westminster*. For bigness they approached to *Turkeys*. The Beak near the head was streight, toward the end hooked, of a horn-colour; the Sear or skin covering the *Basis* of the beak of an ash-colour or blewish white; the space from the Nosthrils to the eyes bare of feathers: The mouth very wide when gaping: The Tail of a mean length, with a transverse bar or ring of white. The upper Chap of the Beak had on each side a small obtuse Angle or Tooth, as that of the *Kestrel* and other Hawks. The inside of the mouth was of a flesh-colour. The Feathers covering the head and neck not smooth and even, but rigid, narrow, and lying at a distance one from another: The Talons black; the Legs feathered down below the knees. Our Country-men call this bird simply and absolutely *the Eagle*, without any Epithet of distinction, as if indeed this were κατ' ἐξοχὴν, the *Eagle* of *Eagles*. I take it to be specifically the same with the precedent.

The Bigness. The Beak. The Tail. The feathers.

§. II.

69 **The* Sea-Eagle *or* Osprey; *Haliæetus seu Aquila marina*; *Nisus Veterum*.

Aldrovandus confesses that himself never saw this Bird: But the description he gives of it, sent by a certain eminent Physician, agrees exactly to the English Bald Buzzard. Moreover *Leonard Baltner*, a Fisherman of *Strasburgh*, who himself described and caused to be painted by the life all Water-fowl that frequent the River *Rhine* thereabouts, sets forth the *Bald Buzzard* under the title of *Fisch-Adler*, *i. e.* the *Fish-Eagle*. But seeing that our *Bald Buzzard* is a lesser Bird than that it may merit the name of an *Eagle*, and is also very like to, and not much bigger than the *Common Buzzard*, we will treat thereof in a more commodious place, among its fellows, *viz.* the lesser sort of wild birds of prey. And in this place for the *Haliæetus* or *Sea-Eagle* we will present the Reader with the *Ossifrage* of *Aldrovandus*, seeing that for its bigness may justly challenge a place among *Eagles* and is also a fierce and generous Bird, preying upon Fish, and frequenting not only Pools and Rivers, but also the Sea. I am not ignorant that *Aldrovandus* will by no means admit this Bird to be the *Sea-Eagle*: 1. Because it answers not to the description of the *Sea-Eagle* left us by the Ancients, which makes it to be not much bigger than the *Kite*, whereas this Bird for bigness falls not much short of the *Chrysaëtos* it self. 2. Because all the notes of the *Ossifrage* agree to it, *viz.* A whitish ash-colour, clouded Eyes, a beard under the chin, and finally *Aquiline* magnitude. But yet these Arguments are not of so great force with me to evince this Bird to be the *Ossifrage*, as the manner of living alone to be the *Sea-Eagle:* unless perchance the *Sea-Eagle* and *Ossifrage* be Synonymous words and names of one and the same Bird. Neither do I much matter the descriptions of

The bald Buzzard described for the Sea-Eagle.

That the *Ossifrage* of *Aldrovandus* is the Sea-Eagle.

the *Ancients*, who in delivering the notes of Animals are wont to be leſs curious and exact. But whatever the *Ancients* called the *Sea-Eagle*, certain it is that the title of *Sea-Eagle* may be very fitly attributed to this Bird. For if we admit the *Bald Buzzard* for the *Sea-Eagle*, (which, to ſpeak the truth, agrees better to the deſcriptions of the *Ancients*) we take away all note of diſtinction between *Eagles* and *Hawks*, which (as we ſaid before) conſiſts only in difference of magnitude.

The deſcription of the *Oſſifrage*. Its length. Breadth. Weight. Beak.

The *Oſſifrage* then or *Sea-Eagle* is thus deſcribed by *Aldrovandus*. From the point of the Beak to the end of the train or Talons, (for the ends of both when extended were coincident) it was three feet and four Inches long: From tip to tip of the Wings ſtretched out nine ſpans broad. It weighed eleven pound. The Bill was very hooked, ſo that the hooked part alone was an Inch long; the whole two Inches broad, and an hand-breadth long; of a blackiſh or dusky horn colour, ſomewhat approaching to a dark blue.

Tongue.

The Tongue was very like to a mans, with a broad top, and hooked, hard, and horny *Appendices* on both ſides, tied down to the lower mandible by a thin Membrane, where it regards the chin a horny Membrane compaſſes the end or tip of it.

The Palate.

The lower mandible was hollowed like a channel, [I ſuppoſe he means the ſides of it] the edges or borders of which channel enter the Palate on both ſides, and are encloſed within its edges.

The head and neck.

In the middle of the Palate is a chink by which a pituitous humour diſtils from the head. The head and all the neck are cloathed with long, narrow, and rigid feathers.

The Beard.

From the Chin hang down ſmall feathers like hairs imitating a beard; whence perchance by *Pliny* and alſo *Bellonius* it is denominated the *bearded Eagle*: And I from that note chiefly ſuppoſe it to be called *Harpe* by *Oppian*,

The colour of the Feathers. The Flags. The Train.

The feathers of the whole body ſingly are particoloured, and that with three colours, whitiſh, duskiſh, and ferrugineous. The flag-feathers of the Wings are almoſt wholly black, ſomething tending to Cheſnut. The twelve feathers of the Train have little or nothing of red, but are only ſpotted with black and white, *viz.* whitiſh on the outſide, dusky on the inner. The two middlemoſt, being beſprinkled promiſcuouſly with white ſpots, are for the moſt part dusky. The ends or tips of all are black.

The Legs.

The feathers growing on the rump, which immediately cover theſe, are almoſt wholly white, ſprinkled with a little black, ſave that their tips are black. Their Legs are almoſt wholly covered with dusky feathers, ſomewhat inclining to fulvous; ſo that there is only two inches to the feet remaining bare.

The body covered with Down.

Beſides the feathers the whole body underneath is covered with a white and ſoft down, as it were a delicate fleece, after the ſame manner as the skin of a *Swan*.

The Toes. The Talons.

The lower part of the Legs, which as we ſaid for the ſpace of two Inches is deſtitute of feathers, and the feet are of a deep yellow. The toes extended are a full ſpan; the length of the middlemoſt is equal to a Palm. The Talons were very black in ſo much that they ſhone again; and ſo hooked that they did exactly repreſent a Semicircle. They obſerved this proportion one to another; the hindmoſt being the biggeſt was two Inches long; the firſt of the fore ones leſſer than it, but bigger than the middlemoſt, and the laſt the leaſt of all. The ſubſtance of the Talons was inwardly white and bony, covered over outwardly with a dusky bark. The leg and foot were for the moſt part covered with round ſcales of unequal bigneſs; but the fore-part of the Leg, and upper part of the toes had Semicircular Tables like the * *Chryſaëtos*.

* Golden Eagle.

Cluſius takes this for the *Sea-Eagle*.

Cluſius ſent to *Aldrovandus* the Picture of this Bird drawn in colours to the life, by the title of the *Sea-Eagle*, writing thereof in this manner, This *Haliæetus*, which our Countrymen living in the Sea-coaſt call *Zee Aren*, that is, *Sea-Eagle*, was ſhot the laſt Winter, *&c.* That this *Eagle* feeds only on Fiſh I my ſelf can witneſs, for in the ſtomach thereof diſſected we found nothing but Fiſh, ſome remaining yet entire, ſome half conſumed, *&c.*

This is the Engliſh *Oſprey*.

That this Bird is the ſame which our Seamen and Fowlers call *the Oſprey*, and affirm to have one flat or webbed foot to ſwim withal, after the manner of a *Gooſe* or other Water-fowl, the other being divided after the manner of other Birds of prey, I do not at all doubt.

That it hath not one foot webbed, the other cloven.

But what is reported concerning the feet is moſt certainly falſe and fabulous: although by ſome affirming it with great confidence, even the beſt Naturaliſts have been deceived; among the reſt *Aldrovandus* himſelf, not daring raſhly to contradict, *Albertus Magnus Engliſh* men and *Burgundians* eye-witneſſes. For (ſaith he) the Natives of each Country are moſt likely beſt to know what things are peculiar to their own Country either by Land or Sea, Well, I my ſelf am an *Engliſh* man, yet have I never yet met with any credible perſon who would affirm himſelf to be an Eye-witneſs of this matter, although the Vulgar be ſo confidently perſuaded of it, that ſcarce any body doubts its truth, What gave the firſt occaſion and riſe to this

Error

Error was (I suppose) a presumption of the necessity of such a structure of the feet. For whereas the Mariners and Fishermen did see and observe this Bird much to frequent the Sea and great Lakes of water, and to prey upon Fish; yea, sometimes to fly forth very far from Land, so that it hath been often seen out at Sea, a hundred Leagues distant from shore, flying up and down over the water, and intent upon fishing; they imagined it altogether necessary that it should be furnished with one flat foot for swimming, and another cloven for striking, catching, and carrying away of Fish. It being, one would think, impossible, that a bird should abide upon the Wing so long without rest. But that even small birds, short-winged, and less fit by far for flight than *Eagles* will venture to fly over wide Seas is evident in those we call birds of passage. And who knows but where those Fowl are usually seen, there may be some Rocks in the Sea not far off, on which they may rest themselves. But for the same reason this conceit was first started, it was readily entertained, and without examination greedily believed.

Not less fabulous is that which is reported of the oyl or fat which this bird hath in her rump, and which hanging in the air, she lets fall drop by drop into the water; by the force whereof the Fishes being stupefied, and as it were Planet-strucken, become destitute of all motion, and so suffer themselves without difficulty to be taken; though some are so vain as to put Oyl of *Osprey* into their receipts or prescriptions for taking Fishes, by the smell whereof the Fishes being allured, rather than stupefied by its narcotic vertue, yield themselves to be handled and taken out of the water by such as have their hands anointed with it. Doubtless he that can get the Oyl of such an *Osprey* as they talk of may work wonders with it. The Oyl of *Osprey*.

§. III.

Of the BLACK EAGLE, *called* Melanaëtus, *or* Aquila Valeria.

WE saw a Bird of this kind kept shut up in a Cage in the * *Stadt-house* of *Middleburgh* in *Zealand*. It was double the bigness of a *Raven*, but lesser than the *Pygarg*. The Jaws and Eye-lids were bare of feathers, and somewhat reddish: The head, neck, and breast black. In the middle of the back between the shoulders was a large triangular white spot dashed with red. The rump red. The lesser orders or rows of feathers in the Wings were of a *Buzzard* colour; then followed a black stroak or bar cross the prime feathers, after that a white one, the remaining part of the feathers to the tips being of a dark ash-colour. * The Town Hall. Its Bigness. Colour.

The Beak was less than that of the *Pygarg*, black at the end, then yellow as far as the Sear or skin covering its Base, which was red. The Eyes [understand the *Irides*] were of a hazel colour. The Legs were feathered down but a little below the knees; the naked part being red. The Talons very long. The Beak, Eyes, Legs.

Those Birds which *Aldrovandus* hath set forth for *Melanaëti* or *Black Eagles*; although they differ in some marks from this here described, as for example, in the blewish horny colour of the Beak; in the dark ferrugineous colour of the crown of the head and neck, and that their Legs are almost wholly covered with feathers, scarce an inch remaining bare, and that yellow, yet I doubt not but they are of the same species; there being in the Rapacious kind a great difference for the most part between Cock and Hen in point of magnitude and colour; the colours also in the same Sex varying very much by age and other accidents. The Black Eagles of *Aldrov.* the same with ours.

Of the place of this Bird, its food and manner of living, building its Nest, Eggs, conditions, *&c.* we have nothing certain.

It is called in *Greek* Μελαναίετος, from its black colour. Λαγωφόνος, or *Leporaria*, from killing of Hares: And in *Latine* *Aquila Valeria*, from its strength and valour.

§. IV.

Of the PYGARG *or white-tail'd Eagle, called* Pygargus, *and* Albicilla, *and by some* Hinnularia.

IT is called *Pygargus* from the whiteness of its rump or train, which word *Gaza* rendred in Latine *Albicilla*. Its Name,

The Male (which we described) was for bigness not much inferiour to a *Turkey*. It weighed eight pounds and an half, [it is like, the Female in this, as in other Birds of prey, Bigness, Weight,

Length, prey, may be bigger and more weighty.] Its length from the tip of the Beak to the end of the train was two feet and nine Inches, to the end of the Talons two feet and
Breadth. five inches. The distance from tip to tip of the Wings stretcht out seven feet wanting
The Beak. but one inch, or two yards and eleven Inches: From the tip of the Beak to the Nose-thrils was near two inches, to the corners of the mouth three, to the Eyes almost so much. The breadth of the Beak an inch and a quarter; the hooked part of the
The Nares. upper Mandible over-hanging the lower three quarters of an Inch. The Nosthrils oblique and half an Inch long. The second or middle bone of the Leg was six inches
Colour of the Beak. and an half long, the third or lowermost no more than three and an half. The colour of the Beak was yellow, and also of the *Sear* or skin covering its *Basis* as far as the
The Palate, Tongue. Eyes. Nosthrils. In the Palate it had a Cavity equal to the Tongue. The Tongue broad, fleshy, black at the tip. The sides or edges of the Beak sharp. The Eyes great, withdrawn or sunk in the head, overhung and defended by Eye-brows, prominent like the Eves of a house: The *Irides* of a pale Hazel colour [in one Bird which we
The Feet, saw of this sort they were red; in another yellow.] The feet were yellow, in the soles were callous rough knobs, or fleshy protuberances, as in others of this kind:
Talons. The Talons large, sharp, and crooked, that of the back-toe (as generally in most Birds) being greatest: That of the middle toe an inch long, the toe it self being two Inches.

Colour of the Head, Neck, Rump, Body. The Head was pale or whitish, the feathers being sharp-pointed, and their shafts black. The neck covered with narrow feathers; the upper part thereof something red; the Rump blackish; else the whole body round of a dark ferrugineous colour.
The prime wing-feathers. The number of prime feathers in each Wing was about twenty six or twenty seven, whereof the third and fourth were the longest; the second shorter by half an inch
The Wings. than the third, and the first by three inches and an half than the second. The Wings when closed reached not to the end of the train. Of the Pinion feathers and the rest of the flags they make Quils for Virginals, and very good Writing Pens. All the prime feathers of the Wings were black; the lesser rows of the Wing-feathers had
The Train. their edges of an ash-colour. The tail was eleven inches and an half long, made up of twelve feathers; the upper or extreme part for above half way being white, the lower black. The extreme or outmost feathers were shortest, the rest gradually longer to the middlemost.

The Entrails, and Guts. It had a large Gall, long Testicles, small Guts, having many revolutions, and being by measure one hundred thirty two Inches, or eleven foot long, a small stomach, above which the Gullet was dilated into a kind of bag, granulated on the inside with many small protuberancies, which I take to be glandules, and which being squeezed a little, yielded a kind of pap or slime, serving, it is like, as a *menstruum* to help macerate the meat in the stomach. It had a vast Craw; small short *Appendices* or blind guts, *viz.* not more than three quarters of an inch long.

This Bird, shot dead by a certain Fowler, we bought and described at *Venice* in the year 1664. and from the white ring about the tail denominated it *Pygargus*. It differs from that we have entituled the *Golden Eagle with a white ring about its tail*, chiefly in the colour of the Head and Beak: So that I suspect it may be the same: as also with the *Golden Eagle* of *Aldrovandus*, notwithstanding the white colour of the train, which perchance may alter with age, [yet it differs also from it in other accidents, as for example, in the yellow colour of the Beak.] If these three birds be not the same, yet are they very like and near of kin to one another: Perchance the only difference may be in Age or Sex.

The *Pygarg* of *Aldrovand.* * *Lib. 2. Cap. 4. Ornithol.* The *Pygargus* of * *Aldrovandus* seems to be a different kind, which he describes in these words,

Its bigness, Beak, It is of a mean magnitude as big as a large *Dunghil-Cock*. The Bill all over yellow, hooked, and bending by little and little from the very root to the utmost tip or point of the hook, somewhat longer than in other *Eagles* in proportion to the bigness of the Bird. The Pupil of the eye very black, the *Iris* yellow. The crown of the
Pupil. Colour of the Head and Neck, Back, Belly. head and all the neck of a pale Chesnut, inclining to an Ash-colour, the tips of the feathers being more black. The back and upper part of the Wings are covered with dark ferrugineous and blackish feathers, as also are the Belly and Thighs for the most
The Train. part. The Tail from the Rump to the end is wholly white; whence the name of *Albicilla* was not undeservedly by *Gaza* imposed upon it, Howbeit two of the smaller feathers [I suppose he means the two middlemost] which lie upon and cover the
The Legs and Talons. other greater and principal ones have black tips. The Legs are almost wholly bare of feathers, and both Legs and Feet intensely yellow, both being all over covered with square Table-like Scales. The Talons very sharp.

The

The former *Pygargus* of *Bellonius* seems to be nothing else but the male of the *Ringtail* called in English the *Henharrier*.

§. V.

* *Of the Eagle called* Morphnos *or* Clanga *and* Anataria.

That Bird which by *Gesner*, and out of him by *Aldrovandus* is figured and described under this title, being again nothing else but our *Bald Buzzard* (as *Turner* himself acknowledges, who sent the description to *Gesner* under the title of *Morphnos*) I shall omit it here, referring it to its proper place among the wild Hawks; it being (as I said before) of a lesser size than to deserve to be ranked with *Eagles*.

In stead of the true *Morphnos*, which *Aldrovandus* professes himself not to know, I shall here give you the description of that Bird which he calls *Morphno Congener*.

It is (saith he) of about the height and bigness of a large *Dunghil-Cock*: From the tip of the Beak to the end of the Train three spans and an half long. The Beak was pretty long, hooked, and tending almost directly downward, joyned to the head by a yellow Membrane [I suppose he means the *Sear*.] The colour of almost the whole Plumage was ferrugineous, saving that at the ends of the Wings towards the belly it was beautified with many oval spots, scattered up and down, and moreover, that the utmost tips of the beam-feathers were white, as also the beginning of the Tail, and the extremities of all its feathers, and the lower part of the Rump. The Legs were all over feathered down to the beginning of the toes, and besprinkled also with whitish Ash-coloured spots. The Feet were yellow; the Toes above toward the Leg covered with Scales, toward the Talons with annulary Tables. The bottoms of all the feathers white, The Pupil of the Eye black, encompassed with a cinereous circle: It would very greedily devour flaid Mice. Its Bigness and length. Its Beak. Colour. The Legs. Feet, Toes. Its Food.

Bellonius for the *Morphnos* of the Ancients gives us the *Jer-falcon*; whose opinion *Aldrovandus* disallows.

This Bird took the name *Morphnos* from the spots of the feathers whence also it may in Latine not unfitly be called *Nævia*. Others will have this name to be derived from μέμορφα, the Preterperfect Tense of μάρπω, α being changed into ο short and the letter ν interposed, and so to signifie rapacious. It is called *Clanga* both by the *Greeks* and *Latines* from the sound of its voice. The Etymology of the names.

§. VI.

* *The crested Eagle of Brasil:* Urutaurana *Brasilienſium*, Marggrav.

This Bird is of the bigness of an *Eagle*: It hath a black Bill (the upper Chap whereof is hooked) yellow near its rise or Base: The Eyes of a lovely Gold-colour, with black Pupils, which it can cover with an ash-coloured skin [*Periophthalmium*] though it shut not the Eye-lids. It hath an *Eagle*-like head, but compressed or plain above [flat-crowned] in the top whereof it hath two black feathers about two inches long, with two small ones on each side: These it can when it lists set up an end, and again let down flat. The Wings reach but little beyond the bottom or rise of the Tail. It hath a broad Tail like an *Eagle*. The Head above is covered with dusky feathers having yellowish edges: The upper part and sides of the neck with brown ones [rather cinereous or terreous] like a *Partridges*. The whole throat and lower part of the neck is white, yet so that the white is variegated at the sides with black feathers. The whole breast and lower belly, the upper and lower legs down to the very feet are covered with white feathers, wherewith black ones are mingled scalewise. The Wings and Tail are of a dusky colour, shaded, having the utmost borders or edges white, The feet have four Toes, yellow of colour, with dusky crooked Talons. Its cry is *Geb*, *Geb*, like to that of a Chicken which hath lost its Dam, [we express that voice by *Yelp*, *yelp*] If you cast a bird to it, whether alive or dead, it catches it in its Talons, and with its Bill handsomly plumes it, and then tearing it in pieces swallows down both flesh and bones. I kept one of these alive a long time in the Fort *Mauritius* by the River of St. *Frances*. Its Bill, Eyes, The head. Crest. The Wings, Tail. Colour. The Feet. Its Voice. Food.

§. VII.

§. VII.

* *The Braſilian* Urubitinga *of* Marggrave, *very like our Pygarg or White-tail'd Eagle.*

THis Bird is like an *Eagle*, of the bigneſs of a *Gooſe* of ſix months old. It hath a thick hooked black Beak; a yellowiſh skin about the Noſthrils: Great ſparkling *Aquiline* Eyes: A great Head: Yellow Legs and Feet: Four Toes in each foot, diſpoſed after the uſual manner; crooked, long, black Talons: Large Wings: A broad Tail. It is all over covered with dusky and blackiſh feathers; yet the Wings are waved with aſh-colour. The Tail is nine Inches long, white for ſix, the end for three Inches being black; howbeit in the very tip there is again a little white. This is a ſtately Bird of tall ſtature [*Egregiæ ſtaturæ.*] *It doth in many things approach to that deſcribed by us under the title of* Pygargus, *ſave that the upper part of the tail-feathers in that of ours was white, the lower black, whereas in this, on the contrary the upper is black, and the lower white. Mr.* Willughby *mentions another variety or difference of the* Pygargus, *in which the Tail-feathers from the middle downwards were white, the upper half being black, which ſeems to be altogether the ſame with that here deſcribed by* Marggrave.

§. VIII.

* *Of the Vulturine Eagle of* Aldrovandus, *called* Percnopteros, Gypaëtos, *and alſo* Ovipelargus.

THough *Aldrovandus* makes this Bird a ſort of *Eagle*, entitling it *Perknopteros*; yet he confeſſes it to have nothing *Aquiline* beſide the name, being ignoble, ſluggiſh, and deformed, and therefore deſerving to be ſet behind not only *Eagles*, but alſo *Vultures*. We take it to belong to the family of *Vultures*, as will appear from its deſcription compared with the general notes of *Vultures*.

Of this ſort of Birds *Aldrovandus* gives us three figures, and three deſcriptions, beſides that of *Bellonius*, which, whatever it be, ſeems to be a Bird of another kind. The firſt, was of a *Vulturine Eagle* brought out of *Spain*, in theſe words:

Its bigneſs. It was of eminent Magnitude, yea, not much leſs than the *Chryſaëtos*, but of
Beak, an unuſual and ridiculous ſhape; the Beak, not as in other *Eagles*, bending from the root to the tip by a continual declivity, but ſtreight almoſt to the middle, toward the point bowed into a remarkable hook, after the ſame manner as in *Vultures*, white toward the Head, the reſt of it being black; the lower
Mouth, Chap wholly white. The mouth within-ſide [*Oris rictus*] of a Cheſnut-colour.
Eyes, The *Irides* of the Eyes not, as in other Eagles, of a fiery colour, but whitiſh; the
Head. Pupil black. The whole Head whitiſh, inclining to dusky [*fuſcum.*] The upper
The Neck bare of feathers. part of the Neck, about half way down, almoſt bald, beſet with very few, and thoſe
Staring hair-like feathers. ſmall feathers, of a white colour. At the end of this bald part, almoſt in the middle of the Neck, grew ſmall feathers like certain rough curled hairs, ſtanding up above the reſt of the Plumage, as it were very fine ſlender, long briſtles; the like whereto it
The back. had in the beginning of the back and breaſt, in places juſt oppoſite to one another, and alſo on the Rump below. On the Back was as it were a kind of hood, reaching to
Colour of the body, Tail, Feet. the middle thereof, ending in a ſharp peak, and reſembling a Triangle. The colour of the whole body was a dark Cheſnut inclining to black. The Tail long; the Feet and Legs white; the Claws dusky.

Its length. The ſecond was of one taken by Country men on the *Alpiſh* Mountains of the
The Bill. Town *Giulia*, as follows. From the tip of the Bill to the end of the Tail it was by meaſure three ſpans long. The Bill was long, but for the moſt part covered with a
The Head. skin or membrane, ſo that about an inch only of the tip remained bare; the hooked end ſmall and ſlender. The Head was bald or deſtitute of feathers to the hind-part, ſo
The Colour. that the feathers ſtanding up behind the crown, reſembled a Monks hood, put back, and leaning on his neck, when he goes with his head uncovered. The colour of almoſt all the feathers of the whole body was dusky, inclining to a dark Cheſnut: Only interrupted by a continued *Series* of whitiſh feathers on the lower part of the neck, making an acute Angle, the point running down the middle of the back, which was as it were the acuminated part of the Monks hood, hanging from the ſhoulders

down

down the middle of the back. * Also another series not unlike this of whitish feathers, terminating in an acute Angle about the middle of the back, covered all the lower part of the back toward the complications of the Wings, somewhat resembling a Clock. The Tail was broad, and of a mean size. The Feet dusky, and all over covered with Scales. The Beak and Talons were of one and the same dusky horn-colour. The feathers on the thighs reached not lower than the knees. It would without difficulty suffer it self to be touched or handled, whence you may note its sluggishness and cowardise. Being angred it cried like a *Kite*.

* It is hard to understand clearly the Authors meaning in these words.

The Tail, Feet, Talons.

The third is *Gesners*. This *Eagle* (saith *Gesner*) whose figure we here present you with, if it be not the *Gypaëtos*, *i. e.* The *Vulturine Eagle*, or *Oripelargus*, *i. e.* the *Mountain Vulture*, yet seems to be bred at least of one Parent of this kind. For in Beak it resembles a *Vulture*, in colour a *Stork*, being ignoble and sluggish. It was unknown to our Fowlers, being never, that I know of, taken with us. But in the year of our *Lord*, 1551. on *Septemb.* 29. there falling an extraordinary Snow, a Bird of this kind, her Wings being wet and heavy, fell down into a narrow place in the open Air adjoyning to one of our Citizens houses. It did for shape and colour wholly resemble a *Stork*. It was Carnivorous, yet would not touch Fish; impatient of cold: The body intensely hot, so that the cold hands of them that touched it were presently warmed thereby. It would sit stark still in the same place for four or five hours; and sometimes look upon the Sun when it shone out. *Hens* and other birds scorned, despised, and neglected it as harmless and innoxious. I kept it at my house above a month, and gave it meat with my hand, the smaller gobbets whereof it would swallow, the greater pieces it tore asunder with its Claws. Though it drank not, yet from its Beak drops of water distilled.

Its Beak. Colour.

Its Food. Temperature. Nature and qualities.

In the Year 1664. we saw at *Venice* in the Palace of a certain Nobleman of the City standing upon the *Grand Channel*, a bird of this kind, which we thus described.

For bigness it equalled or exceeded any *Eagle* we have seen. The Head and Neck were destitute of feathers, only covered with a white down. From the Bill to the Eyes the skin was bare, and of a blue colour. Almost all the feathers of the body were of a pale ferrugineous colour. On the lower part of the Neck below the Down there was as it were a kind of Collar or Ruff of long white feathers. The prime feathers of the Wings and Tail were black. The Bill was large, more like a *Gulls* than an *Eagles*, the tip of it white. The Nosthrils were covered with a black membrane: The *Irides* of the Eyes of a reddish hazel colour. The Nosthrils turned directly downward, and from them constantly dropped a liquid humour or water. It was feathered down a little below the knee. The Feet were of a Lead colour, the Claws black, lesser, and not so crooked as an *Eagles*. The middle Toe much longer than the rest: The outmost joyned to the middle by a membrane as far as the first joynt, or further: The inside of the Legs white. The Craw hung down from the body before like a bag. It stood almost always with the Wings stretcht out like the figure of the *Vultur Leporarius* of *Gesner*.

Its bigness, Head and Neck bare, of feathers.

Colour.

Beak.

Eyes, Its nose dropped.

Its Feet and Claws.

The Craw.

Manner of standing.

These three descriptions I suspect to be of one and the same Bird, differing only in Age or Sex. For the first of *Aldrovandus* in most notes agrees with ours; excepting the Triangular spot in the back, which either was not in ours, or not observed by us, (which yet I scarcely believe) and that he makes no mention of any humour dropping from the nose of his, perchance because it was seen and described after it was dead. *Aldrovandus* confesses his second to be in many things not unlike to *Gesners*: But that *Gesners* and ours are the same Bird, that one note of the water distilling from the Nosthrils is sufficient to evince, notwithstanding the difference of colour. I judge the first of *Aldrovandus* and ours described at *Venice*, to be of the same Sex; likewise the second of *Aldrovandus*, and that seen and described by *Gesner* to be of the same Sex, but different from that of the other two. But herein I dare not be very positive and confident.

Chap. IV.

Of Vultures *in general.*

THe Characteriſtic notes of *Vultures* are, 1. That for bigneſs they are equal to, or exceed *Eagles*. 2. That their Beaks are not preſently from their firſt riſe from the Forehead crooked and bending, but after about two Inches continued ſtreightneſs; which *Geſner* ſaith, he himſelf hath obſerved in many ſorts of *Vultures*. 3. That they have an excellent ſagacity of ſmelling above all other Birds, ſo that they can perceive the ſavour of dead Carcaſſes from far, [many miles off they ſay.] 4. The Ancients have delivered, that they are content only with dead Carcaſſes, abſtaining from the ravine and ſlaughter of living Animals. But *Bellonius*, *Geſner*, and others of the Moderns affirm, that they purſue live Birds, and prey upon living Fawns, Hares, Kids, Lambs, *&c.* 5. That they have the neck for the moſt part bare of feathers. 6. *Bellonius* aſſerts, that among all Rapacious and hook-bill'd birds *Vultures* only aſſemble and fly together in flocks; and that himſelf ſaw great flights of them, of not fewer than fifty in each, when he travelled from *Cairo* to Mount *Sinai*. Hence that obſervation of *Ariſtotle*, Γαμψωνύχων οὐδὲν ἀγελαῖον, is proved not to hold generally true in all Rapacious Birds. 7. That their Legs are feathered down to the Feet: By which note *Bellonius* thinks they are to be diſtinguiſhed from other Birds of prey. But neither is this note common to all *Vultures*, *Bellonius* himſelf repreſenting ſome with naked legs; nor proper to the *Vulturine* kind; but alſo common to ſome *Eagles*, as appears by their figures and deſcriptions. 8. That under their throats they have a ſpace of about an hand-breadth, clothed rather with hairs, like to thoſe of a Calf, than with feathers. Which note we found to be true in the *Vulture* kept in the Royal Aviary in St. *James*'s Park *London*. 9. That the Craw hangs down like a bag before the ſtomach or breaſt, which we obſerved in the *Venetian Vulture* or *Gypaëtos*, deſcribed in the precedent Chapter. 10. That the Female, contrary to the manner of other Birds of prey, doth not exceed the Male in bigneſs. 11. That all the inſide of the Wings is covered with a ſoft fleece of Down; which is peculiar to the *Vulture* alone among Rapacious Birds. What is delivered of the generation of *Vultures*, *viz.* That there are no Males found among them: That the Females are impregnated by the Wind; that they bring not forth Eggs, but live Young, *&c.* is altogether falſe and frivolous, ſcarce worth the mentioning, much leſs the refuting. Among the marks hitherto reckoned up, the moſt proper Characteriſtic of a *Vulture* ſeems to me to be that of *having its neck bare or deſtitute of feathers*, and only covered with a Down. Thoſe two, I am ſure, which alone we have hapned to ſee, had not only their necks, but their heads alſo bare, covered only with a ſhort white Down.

Chap. V. §. I.

* *Of ſeveral of* Vultures.

ALdrovandus out of *Bellonius* and *Geſner* ſets forth ſix ſeveral ſorts of *Vultures*:

The cinereous Vulture.

1. The *cinereous* or aſh-coloured *Vulture*.

The blac Vulture.

2. The *black Vulture*. Of which he ſaith, he wonders, why *Bellonius* (who boaſts that he had ſo great opportunity and facility of ſeeing and getting divers ſorts) ſhould give no perfect deſcription, neither of the one, nor the other, but only ſet forth a figure: which yet doth not agree to what he writes of *Vultures* in general, *viz. That they all have rough legs, wholly feathered down to the foot, and do by this mark differ from Eagles*, it being repreſented with naked legs.

The *Bætic* or Cheſnut coloured Vulture deſcribed.

3. The *Cheſnut-coloured Vulture* [*Bæticus*] which *Bellonius* thus deſcribes: It is ſomewhat leſs than an *Eagle*, hath the feathers of its Neck, Back, Belly, and whole body of a Cheſnut-colour, wherein it differs from the black *Vulture*. The greater feathers of the Wings and Train are of the ſame colour with thoſe of the Black. Both [this and the black] have ſhort tails in reſpect of their very long Wings. Theſe do not, as in other Rapacious Fowl, follow the nature and conſtitution of the Wings, but

but rather, as in *Woodpeckers*, are found for the moſt part with their points broken and ſhattered: Which is a ſign they wear and break them by rubbing againſt the Rocks, where they harbour and build their Neſts. The *Cheſnut* or *white Vultures* are more rare to be ſeen than the *black*; and have this peculiar to them, that the feathers of the Crowns of their heads are very ſhort if compared to *Eagles*: Which is the reaſon why ſome have thought them bald. They have ſhort legs, covered all over with feathers down to the beginning of the toes. Which note is peculiar to them, not agreeing to any other Rapacious hook-bill'd Bird, beſides the Nocturnal ones. The feathers of the Neck in theſe *Bætic Vultures* are very narrow and long (like thoſe that hang down about the necks of *Dunghil-Cocks* and *Stares*) if compared with the reſt, which cover the back, wings, and ſides, which are ſmall and broad like Scales. But thoſe which cover the back, ſtomach, belly, and bottom of the rump in the *Bætic Vulture* are red, in the black one black, but in both pretty broad.

4. The *Hare-Vulture*, [*Leporarium*] ſo called from preying upon *Hares*; of which *Geſner* writes after this manner. It hath not ſo * fulvous a breaſt as our *Golden Vulture*, and is inferiour to it in magnitude. *George Fabricius*, the ornament of *Germany*, ſent me its figure, with this deſcription added. The *Vulture*, which the *Germans* call *Ein Haſengyr*, hath a hooked, black Bill; foul Eyes; a firm, great Body; broad Wings; a long, ſtreight Train; a dark red Colour; and yellow Feet. Standing or ſitting it rears up a Creſt upon its head, as if it were horned, which appears not in flying. The Wings extended exceeded the meaſure of a fathom [*Orgyiæ.*] In walking it ſteps or paces two Palms [hand-breadths.] It purſues all ſorts of Birds; of Beaſts it catches and preys upon Hares, Conies, Foxes, Fawns; it alſo lies in wait for Fiſhes, It will not be made tame. It purſues its prey not only by flying, but alſo by running. It flies with a great force and noiſe. It builds in thick and deſart Woods upon the higheſt trees, It feeds upon the fleſh and entrails of Animals, not abſtaining from dead Carcaſſes. It can endure hunger, or abide without meat fourteen days, although it be moſt voracious. The Hare-Vulture. * A deep Golden or Lion-colour.

5. The *Golden Vulture*, of which *Geſner* thus: Viewing the skin of the *Golden Vulture*, ſent me once out of the *Alpine* Country of the *Griſons*, [*Rhætia*,] the beak and legs yet ſticking to it, I thus deſcribed it. This *Vulture* hath many things common with that kind of *Alpine Eagle*, (whoſe figure and deſcription we placed firſt in the Hiſtory of the *Eagle*) but is every way, or in all parts greater. From the Bill to the end of the Tail it was ſomewhat more than four feet and an half long, to the end of the Claws three feet and nine Inches, or ſomewhat leſs. The length of the upper Chap of the Bill, as far as the opening of the mouth, was almoſt ſeven Inches. The length of the Tail was about two feet and three inches. All the lower part, that is to ſay, the lower part of the neck, the breaſt, the belly and the feet were of a red colour, more dilute towards the tail, more intenſe towards the head. The Toes of a dusky or horn colour. The longeſt feather of the Wings was almoſt a yard long: They are all blackiſh or dusky, of near one and the ſame colour: Yet the ſmall feathers, that are higheſt toward the ridge of the wing are blacker, and ſome of them marked with tranſverſe reddiſh ſpots croſs the middle, others with whitiſh ones about the bottom. So much the blacker are they by how much nearer to the back, where they ſhine again for blackneſs. The feathers on the middle of the back are black and ſhining, their ſhafts in the middle are white, eſpecially of thoſe which are about the middle of the back, and in half the neck; for the remaining part of the neck hath pale red [*ruffus ex albido*] feathers. The tail feathers are of the ſame colour with thoſe of the wings, *viz.* dusky. The Golden Vulture deſcribed.

6. The *white Vulture*, which he makes the ſame with the cinereous Vulture of *Bellonius*. The white Vulture.

7. That *Vulture* which we ſaw in the *Royal Aviary* in St. *James*'s Park, did in many things agree with the third ſort or *Cheſnut* [*Bæticus*] Vulture of *Bellonius*. Its back and wings were fulvous: Its tail ſhort in reſpect of the wings: The Beak black, hooked at the end. The head and neck as far as the breaſt, and the middle part of the breaſt void of feathers, covered over with a ſhort, ſoft, thick white Down. The Eyes were fierce-looked, with Saffron-coloured, or deep-yellow *Irides*. In the lower part of the neck was as it were a Ruff of thick-ſet, narrow feathers much longer than the reſt, as in the *Percnopteros* of *Aldrovandus*. Our fulvous Vulture, like *Bellonius* his Cheſnut one.

§. II.

* *The Braſil* Vulture *called* Urubu, *by the Dutch* Een Menſcheneter. *Marggrav. By the Mexicans* Tzopilotl. *F. Ximen. By Nieremberg and others* Aura.

IT is a rapacious Bird of the bigneſs of a *Kite* according to *Marggravius*; of a middle-ſized *Eagle* or *Raven* according to *Ximenes:* Having whitiſh feet like a Hens, a long tail, and wings longer than it. The feathers of the whole body are black, with a little* tauny colour here and there mingled. It hath a ſmall head, almoſt of the ſhape of a *Turkeys*, covered with a ſomewhat rugged or wrinkled skin. In the top of the head the skin is as it were divided long-ways, and on the left ſide of the head beneath the Eye is of a Saffron colour, above the Eye of a blew, alſo in the top; elſewhere of a reddiſh brown. In the right ſide of the head about the Eye above and beneath it is of a Saffron colour, as alſo in the top: Elſewhere of a delayed yellow, or whitiſh. It hath a pretty long Bill, hooked at the end, ſharp, and covered over from the head half way with a skin from Saffron-colour tending to blue. In the middle of the Bill above is *one hole of the Noſthrils, large, and ſituate tranſverſly. The end of the Bill, that is bare and wants the skin, is white. It hath elegant Eyes almoſt of the colour of a *Ruby*, with a round black Pupil: The Eye-lids of a Saffron-colour. The Tongue carinated, and indented round with ſharp teeth. Its fleſh ſtinks like Carrion. For they feed upon dead Carcaſſes; and in the *Capitania* [*Chieftainſhip*] of *Sirigippo*, and River of St. *Francis*, when any one kills a beaſt, they come flying preſently in great numbers. It is an ill-looked bird, always lean, and never ſatisfied, *Ximenes* makes it to be a kind of *Raven*, but the *Sear* or skin covering the *Baſis* of the Bill, argues it to belong to the Rapacious kind, the bare head, and tip of the Bill only hooked, determine it to the family of *Vultures*. It feeds (ſaith *Ximenes*) upon dead fleſh and mans dung. They pearch at night on Trees and Rocks, in the Morning they reſort to the Cities, ſit viewing and watching the ſtreets on high places, and when they ſpy any filth, garbidge, or dead thing, they catch it up, and devour it. Where they build or hatch their Young is hitherto unknown; although they be moſt frequent in almoſt every corner of *New Spain*. Yet *Acoſta* ſaith, that their young ones are white, and that growing up they change and come to be as black as *Ravens*. They fly always very high, and caſt a horrible ſtink from them like *Ravens*. They fly conſtantly in flocks, and ſit upon trees, and feed joyntly in company upon dead Carcaſſes without any ſtrife, or quarrelling, and when the reſt ſee any one not able to move or help her ſelf, they help her as much as they can, and bring her to the water: For being waſhed they recover ſtrength to fly. If any one purſues them they empty themſelves preſently, that they may be the more light to fly away; with like haſte caſting up what ever they had ſwallowed. The aſhes of their feathers burnt take away hairs, ſo that they come not again; which faculty is alſo attributed to the dung of *Piſmires*, and the bloud of *Bats*. Their skin half-burnt heals wounds if it be applied, and the fleſh withal eaten; which is wont alſo to help thoſe that are ſick of the French Pox. The heart dried in the Sun ſmells like Musks The Dung dried, and taken in any convenient Vehicle to the weight of a Drachm is profitable to melancholy perſons. The Barbarous people ſay, that where they lay their Eggs, they compaſs their Neſts with certain Pebble-ſtones, which promote tranſpiration: But the more probable opinion is, that they exclude their Young under ground, and take them out when they feed them, and again cover them in the earth.

* *Ravi.*

* I ſuppoſe he means one common hole for both Noſthrils: or a hole through the Bill from ſide to ſide.

Chap. VI.

Of the leſſer ſort of Rapacious Birds that prey by day, called Hawks.

IT follows now that we treat of the leſſer ſort of Rapacious Birds that prey by day, called *Hawks*. Theſe we have before diſtinguiſhed into the *more generous*, which are wont to be reclaimed and trained up for Hawking, And the *more ſluggiſh* and cowardly, which becauſe they are either indocile, or unfit for Hawking, are neglected by men.

The

The former called *Hawks* are wont to be divided by Falconers into *Long-winged* and *Short-winged*. Thoſe they call *Long-winged* whoſe Wings when cloſed reach almoſt to the end of the tail: Thoſe they call *Short-winged* whoſe Wings when cloſed fall much ſhort of the end of the tail; of which ſort we have ſeen two greater, *viz.* the *Goſhawk* and *Sparrowhawk*; and three leſſer, *viz.* the three ſorts of *Butcher-birds*.

But becauſe that diſtinction of *Hawks* into *tame* and *wild* is arbitrarious and depends upon inſtitution; but the other into *Long-winged* and *Short-winged* hath its foundation in nature, and may be accommodated to all *Hawks* in general; we will prefer it before that, firſt treating of the *Long-winged* Hawks.

Hawks in reſpect of their age are divided by Falconers into 1. *Nyas* or *Eiaſſe-Hawks*, which being taken out of the Neſt, or brought away in the Neſt before they can fly, are brought up by hand. 2. *Ramage-Hawks* or Branchers, which are taken when they are fledg'd and got out of the Neſt, but depart not far from it, flying only from bough to bough, and following their Dams, not being able yet to prey for themſelves: from *Ramus* ſignifying a bough. However they be taken, after they have preyed for themſelves the firſt year, while they retain their Chicken-feathers, they are called *Sore-hawks*, from the *French* word *Soret*, ſignifying a dusky colour. The ſecond year, when they have changed their feathers, they are called *Entermewers*, from the word *muto* to change. The third year they are called *White Hawks*, for what reaſon I know not. The fourth year, when they are come to their full growth and perfection, they are called *Hawks of the firſt coat*; the fifth year, *Hawks of the ſecond coat*; the ſixth year, *Hawks of the third coat*; and ſo on as long as they live. Some of them, if they be well tended and favoured while they are young, will hold out twenty years. The feathers of all by age gradually grow whiter, as mens hairs grow grey, ſo that by how much the older they are, by ſo much the whiter are they. The outmoſt feather of the Wing is by our Falconers called the *Sarcel*, by the number of the dents whereof they pretend to know the age of the *Hawk*, as by the number of croſs bars in the tail, the age of a *Pheaſaant*.

But of the manner of feeding, training up, reclaiming, and curing the diſeaſes of *Hawks*, thoſe that have written of *Falconry* are to be conſulted.

CHAP. VII.

Of Long-winged Hawks.

LOng-winged Hawks may be divided into the more *ſluggiſh* and *indocile*, which we call *wild Hawks*, and the more *generous*, ſuch as uſe to be trained up for Fowling. Thoſe we call wild Hawks are *the Bald Buzzard, the Common Buzzard, the Honey-Buzzard, the Ring-tail, the Kite or Glead, and the Moor-Buzzard*. Of which in order.

CHAP. VIII.

¶ *Of the ſeveral ſorts of wild long-winged Hawks, and firſt,*

§. I.

Of the Bald Buzzard. The Oſprey!

THis Bird is by *Aldrovandus* twice put among *Eagles*: 1. Under the title of *Haliaetus*, *Lib.* 2. *Cap.* 3. 2. Under the title of *Morphnos*, in the ſeventh Chapter of the ſame book.

The Bird we deſcribed weighed fifty ſix ounces and an half. [If herein Mr. *Willughby* be not miſtaken, I ſee not but this Bird might well enough paſs for an *Eagle*: But I ſuſpect an error in the weight.] Its breadth, or the diſtance between the extremities of the wings extended was ſixty Inches. The Beak from the point to the Angles of the mouth an inch and half long, black, hooked, covered from the Baſe as far as the Noſthrils with a blewiſh skin or Sear, bunching out between the Noſthrils

Its Weight,

Breadth,

Beak,

Nares, Nostrils and the hooked part. The Nostrils themselves are oblong and oblique. The Angle of the lower Chap [*i. e.* which the legs thereof make] round. The Eyes. Tongue broad, soft, and like a mans. The *Irides* of the Eyes yellow; the Pupils great. It hath both an upper and lower Eye-lid, but the lower much greater. The Eyes are not so sunk in the head, or withdrawn under prominent brows, as in the *Common Buzzard*, but more extant.

Colour of the upper side, Lower side. The Bird it self seems to be much stronger and more valiant than the *Buzzard*, with which it agrees in the colour of the upper part being black and ferrugineous. The feathers on the crown of the head are white, whence it took the name of *Bald Buzzard*: The throat, breast and belly white, but above the Crop the feathers are ferrugineous. The Legs are cloathed with white and soft feathers. The prime or flag-feathers in each Wing are about twenty eight; from the seventeenth they end in sharper points: The greater are the blacker. The four outmost have the lower half of their interiour Vanes twice as broad as the upper: The interiour Vanes of all are variegated with white and black alternately, indented like the teeth of a Saw. The feathers under the shoulders are white, marked with black spots toward the tips. The third and fourth row of those that cover the roots of the flag-feathers underneath are elegantly marked toward the tips with dusky spots, having their edges ferrugineous. The lesser feathers above these are white, the greater beneath them dusky or brown. The Train is made up of twelve feathers of equal length, having their borders party-coloured of white and ferrugineous, indented as in the Wings.

The Flag-Feathers. The covert feathers. The Train.

The Feet, Toes, and Talons. The Legs are long: The Feet thick and strong, of a pale blue or Verdigrease colour. The middle Toe the biggest; the outermost somewhat bigger than the inner; the back-toe, as in all, the least; all armed with great, semicircular, black, round Talons. The feet scaly and uneven. The sole of the foot rough, that it may more easily hold its prey, when it hath once caught it. The Toes are so disposed, that the outmost of the fore-toes may bend or turn backwards, as in *Owls*, *Parrots*, &c.

Site of the outmost fore-toe. The entrails and bowels. The Liver, Heart, and Gall are large: The Spleen round, and of a black or forbid colour. In the Stomach and Craw opened we found many fish-bones and scales. The Surface of the *Echinus* or ante-stomach, was full of many carneous Globules. The Guts were long, slender, or small, having many revolutions.

Its Food. It haunts Rivers, Lakes, and great Pools of water, as also the Sea-shores. At *Pensans* in *Cornwal* we saw one that was shot, having a *Mullet* in its Claw: For it preys upon fish; which seems very strange and wonderful, sith it is neither whole-footed, nor provided with long legs or neck.

Its Nest. It builds upon the ground among Reeds, and lays three or four large white Eggs, of a figure exactly Elliptical: lesser yet than Hens Eggs.

It casts an ill strong sent, and is much infested with Lice.

It differs from the *Sea-Eagle* of *Aristotle*, in that the neck is not thick and big, but for the bulk of the body slender and small.

What *Aldrovandus* hath delivered of Eagles, *viz.* that the right foot is bigger than the left, doth not agree to this, for its feet are equal.

How it differs from the common Buzzard. It is distinguished from the common *Buzzard*. 1. By its weight and bigness, wherein it exceeds that. 2. That its Wings are longer. 3. By this most sure mark, that the outmost of the fore-toes in this may be turned backward, but not in the common *Buzzard*. 4. By the angular processes of the upper Chap of the Beak. 5. By the blue colour of the legs and feet.

§. II.

Of the common Buzzard or Puttock, called in Latine Buteo.

Its Bigness, weight and measures. IT is about the bigness of a *Pheasant* or young *Pullet*. Its weight was thirty two ounces. Its length from the tip of the Beak to the end of the tail twenty one inches: Its breadth, the Wings being stretched out, fifty two inches. The Head great: The Crown broad and flat: The Beak short, hooked, and of a dark blue. A yellow skin covers the upper Chap from the root beyond the Nostrils. The Bridle of the mouth, or the skin of the corners, is also yellow. The Nostrils are round, [yet in one Bird of this kind we observed them long and bending.] It gaped wide. Its Tongue was thick, fleshy, blunt, as in the rest of this kind. Being angry it opened its mouth, and held its Tongue stretched out as far as the end of its Bill. The roof of the mouth hath in it a hollow equal to the Tongue. The Angle of the lower Chap is circular.

Head, Beak, Sear, Nares, Tongue, Palate.

circular. The Eyes are great, the *Irides*, or circles encompaſſing the Pupil, white, with a daſh ſometimes of yellow, ſometimes of red; ſometimes they are of a whitiſh colour without mixture of any other. The lower Eye-lid downy. The Membrane for Nictation blue. Eyes.

The colour of all the upper part a dark fulvous approaching to black, or a ferrugineous black. In ſome birds of this kind we obſerved many white ſpots in the covert feathers of the Wings; which in the Wings ſpread made a kind of white line: The like white ſpots it had in the long feathers ſpringing from the ſhoulders, which cover the whole back. The edges of theſe feathers were of a dirty yellow. The lower ſide of the body was of a dilute yellow, or yellowiſh white; the breaſt ſtained with oblong ferrugineous ſpots, not tranſverſely placed, but tending downwards, in each feather drawn according to the length of the ſhaft. The Chin is of a ferrugineous colour, the ſhafts of the feathers being black. Between the Eyes and Noſthrils grow long black briſtles. On the middle of the back grow no feathers, but only down; for the ſcapular feathers cover the whole back. The Colour of the upper ſide. Colour of the lower ſide.

The flag-feathers in each Wing are about twenty four in number: The outmoſt of which is ſhorteſt, the third and fourth (counting from it) longeſt. The tips of the four outmoſt are blacker and narrower than thoſe of the reſt: For the tips of the reſt are white. The interiour webs of all are variegated with broad, tranſverſe, dusky, and whitiſh ſtrakes or bars, after the manner of thoſe of a *Woodpecker* or *Woodcock*. The under-ſide of the Wings, excepting the tips of all the flags, and the third part of the five outmoſt feathers, is white varied with tranſverſe parallel lines. The Wings cloſed reach almoſt to the end of the Train. The Train is nine or ten inches long, made up of twelve feathers, not forked, but when ſpread terminating in a circular circumference. The utmoſt tips of its feathers are of an aſh-colour; then follows a tranſverſe black line of an inch breadth, the remaining part being variegated with black and cinereous tranſverſe ſpaces or bars, only the bottoms of the feathers white. The Flag-Feathers of the Wings. The Tail.

The Thighs are long, ſtrong, and fleſhy: The Legs ſhort, thick, and ſtrong, feathered down a little below the Knees. The Legs and Feet yellow, and covered with Scales. The outmoſt toe joyned below to the middlemoſt by a membrane for ſome ſpace. The Talons ſtrong, long, and black; that of the outmoſt fore-toe the leaſt, that of the back-toe the biggeſt. The Legs, Feet, Toes, and Claws.

The Liver is divided into two lobes, having a large Gall: The Spleen of an Oval figure. It hath but two Teſticles. The ſtomach is large, not muſculous but membranous, that is not fleſhy, like the Gizzard of a *Hen* or *Turkey*, &c. but skinny like thoſe of beaſts. The entrails.

It feeds not only upon Mice and Moles, but alſo upon Birds: For out of the ſtomach of one that we opened we took a ſmall Bird entire, and out of the ſtomach of another even a *Thruſh*. It is a great deſtroyer of *Conies*: Yet for want of better food it will feed upon Beetles, Earth-worms, and other Inſects. Its Food.

The heads of theſe Birds are ſaid to grow *cinereous with age, and the feathers of their backs white. But whether it come to paſs by reaſon of Sex, or Age, or other accident, certain it is they differ very much one from another in this reſpect: For whereas ſome have no white feathers neither in head, back, nor wings; others have very many. * Aſh-coloured. The difference in colour.

Buzzards Eggs are white, ſtained with a few great reddiſh ſpots, yet ſometimes all over white without ſpots. Their Eggs.

That ſort of Hawk (as *Pliny* witneſſeth) which the *Romans* named *Buteo* was by the *Grecians* called *Triorches*, from the number of its ſtones. *Aldrovandus* alſo ſaith that in a *Buzzard* diſſected he had obſerved three ſtones. The third ſtone appeared not to us, though we diligently ſought it. *Aldrovandus* alſo himſelf ſaith, that he would not very much contend with him that ſhall obſtinately deny that third glandulous body (which beſides the two ſtones he had noted, adjoyning to them) to be a true Teſticle. Reaſon of the name *Triorches*.

§. III.

The Honey-Buzzard.

The Bigneſs, Weight, Dimenſions.

FOr bigneſs it equals or exceeds the common *Buzzard*, is alſo like it in figure or ſhape of body, unleſs perchance it be ſomewhat longer. It weighed thirty one ounces. The length from Bill-point to Tail-end was twenty three Inches, to the points of the Talons not more than nineteen. Its breadth or the diſtance between the ends of the Wings ſpread fifty two Inches.

The Beak.

Its beak from the tip to the Angles of the mouth was an inch and half long, black, and very hooked, bunching out between the noſthrils and the head: The Baſis of the upper Chap covered with a thick, rugged, black skin beyond the Noſthrils, which are not exactly round, but long and bending.

The Mouth.

The mouth, when gaping, very wide and yellow.

The Eyes.

The Angle of the lower Chap, as in other *Hawks*, ſemicircular. The *Irides* of the Eyes of a lovely bright yellow or *Saffron* colour.

The Head.

The head is aſh-coloured: The Crown flat, broad, narrow toward the Beak.

Colour.

The bottoms of the Plumage in the head and back white, which is worthy the noting, becauſe it is common with this to many other *Hawks*.

The *Remiges*.

The back is of a ferrugineous colour [or rather a Mouſe-dun.] The tips of the flag-feathers, as alſo thoſe of the ſecond and third rows in the wings white. The Wings when cloſed reach not to the end

The Tail.

of the tail. The number of flags in each Wing twenty four. The Tail conſiſts of twelve feathers, near a foot long, variegated with tranſverſe obſcure and lucid, or blackiſh and whitiſh ſpaces, rings, or bars. The very tips of the feathers are white, below the white is a croſs black line; under that a broad dun or aſh-coloured ſpace or bed (the like whereto alſo croſſes the wings, which differ not much from the tail in colour.)

The colour of the lower part.

As for the lower ſide of the body, the feathers under the chin and tail are white; the breaſt and belly alſo white, ſpotted with black ſpots, drawn downward from the head toward the tail.

The Feet and Talons.

The Legs are feathered down ſomewhat below the knee, ſhort, ſtrong, yellow, as are alſo the feet. The Talons, long, ſtrong, ſharp, and black.

The Guts and Stomach.

The Guts ſhorter than in the former: The * *Appendices* thick and ſhort. In the ſtomach and guts of that we diſſected we found a huge number of green Caterpillars

* Blind Guts.

of that ſort called *Geometræ*, many alſo of the common green Caterpillars and others.

The Neſt.

It builds its Neſt of ſmall twigs, laying upon them wool, and upon the wool its Eggs. We ſaw one that made uſe of an old *Kites* Neſt to breed in, and that fed its

* Waſp-Maggots or Grubs.

Young with the * *Nymphæ* of Waſps: For in the Neſt we found the Combs of Waſps

Its food.

Neſts, and in the ſtomachs of the Young the limbs and fragments of *Waſp-Maggots*.

The Young.

There were in the Neſt only two young ones, covered with a white Down, ſpotted with black. Their Feet were of a pale yellow, their Bills between the Noſthrils and

Food.

the head white. Their Craws large, in which were *Lizards*, *Frogs*, &c. In the Crop of one of them we found two *Lizards* entire, with their heads lying towards the birds mouth, as if they ſought to creep out.

This Bird runs very ſwiftly like a Hen. The Female as in the reſt of the Rapacious kind is in all dimenſions greater than the Male.

How it differs from the Buzzard.

It differs from the common Buzzard, 1. In having a longer tail. 2. An aſh-coloured head. 3. The *Irides* of the Eyes yellow. 4. Thicker and ſhorter feet. 5. In the broad tranſverſe dun beds or ſtroaks in the wings and tail; which are about three inches broad.

The Eggs of this Fowl are cinereous marked with darker ſpots.

It hath not as yet (that we know of) been deſcribed by any Writer, though it be frequent enough with us.

§. IV.

Of the Ring-tail, the Male whereof is called the Henharrier.

Its Weight, Length, Beak.

THe Female, though lean, weighed ſixteen ounces. From the point of the Beak to the end of the tail, it was by meaſure twenty inches long: From tip to tip of the wings extended was forty five inches. The Bill from the tip to the corners of the

the Mouth an inch and half long. Above the Nostrils and at the corners of the Jaw grow black bristles reflected forward.

From the hind part of the Head round the Ears to the Chin a ring or wreath of feathers standing up, having their middle dusky, and their edges of a reddish white, encompasses the head as it were a Crown. From this wreath hangs down a naked skin covering the ears. The back is of a dark ferrugineous colour, the edges of the neck feathers reddish: In the crown of the head less red. The bottoms of the feathers in the hind-part of the head white. Under the Eyes is a white spot. The belly and breast of a dilute reddish colour [or white with a Tincture of red] marked with long dusky spots, tending downward along the shaft of the feather. The middle of the throat of a dusky or dark ferrugineous colour, the edges of the feathers being red. The Rump hath some white feathers, marked in the middle along their shafts with oblong ferrugineous spots. A Coronet. Colour of the feathers.

The number of flag-feathers in each wing was twenty four, the exteriour webs whereof were of the same colour with the back, the interiour being variegated with transverse black and white stroaks alternately situate. In the exteriour and greater feathers the white stroaks are bigger and broader; in the interiour and lesser the black: In the inmost the whole web is dusky, the white by degrees growing darker and darker, till at last it comes to be wholly brown or dusky. The tips of the exteriour feathers in the second row are white, of the interiour red; the rest of them being of the same colour with the back. The *Remiges*, or prime Wing-feathers.

The Tail is ten Inches long, made up of twelve feathers: The tips whereof are of a reddish ash-colour; to which succeed alternately red and black bars, the black being much the broader. In the two middle feathers the red doth altogether disappear, the feathers being wholly black. The Train.

A yellow skin covers the upper Chap, reaching from the root of the Bill beyond the Nostrils: Else the Bill is black, hooked, and prominent. The lower Mandible streight. The Mouth wide when gaping. In the Palate is a Cavity equal to the Tongue. The Tongue broad, fleshy, and undivided: Both Tongue and Palate black. The Angle of the lower Chap, as in others of this kind, round. The border of the Eye-lids round the Eyes yellow. The Sear. The Beak. Palate, Tongue.

The Feet yellow, the Talons black. The outmost Toe for some space from the divarication is joyned to the middlemost by an intervening membrane. The middle Toe longest, the inmost shortest, but the Claw of the outmost least. The Legs long. The Feet, Toes and Talons.

It hath a great Craw: Small, round, tumid, blind Guts: A large Gorge, in that we opened full of feathers and bones of birds: A Gall joyned to the Liver. Its Eggs were as it were besmeared over with red, the white here and there appearing from underneath it. The entrails. Eggs.

The Male or Tarcel of this kind differs very much from the described, not only in magnitude, but also in colour. It is called in *English* the *Henharrow* or *Henharrier*. The head, neck, and back are of an Ash-colour, like that of a *Ring-dove*. The long feathers growing on the shoulders are somewhat dusky. The Rump not so white as in the Female. The Breast white, with some transverse dusky spots. The two middle feathers of the Tail cinereous, from the middle to the outmost the colour is more languid and dilute, inclining to white; all but the middle ones marked with transverse blackish bars. The exteriour flag-feathers of the Wings are black, the tips being ash-coloured, and the bottoms white. The outside of the rest is cinereous, only their inner limbs or borders white. The covert feathers of the upper side of the Wings cinereous, of the nether side white; the shafts of the interiour being black. The first row of the covert feathers of the inside of the Wing have transverse dusky spots. The Legs are long and very slender, beyond the proportion of other *Hawks*. In other points it agrees for the most part with the Female. We suppose this Bird may be the *Pygargus* of *Belloni us*. I suspect that *Aldrovandus* makes of this Hawk differing in Age or Sex two or three Species. The description of that carnivorous Bird he calls *Palumbo similis* agrees exactly to this: The description also of *Lanarius* in the Fifth Book, eleventh Chapter of his *Ornithology* answers in most particulars: And therefore we have taken the figure thereof for it. The description of the Tarcel called the *Henharrier*.

§. V.

The Kite or Glead: Milvus caudâ forcipatâ.

Its Weight and measures. IT weighed forty four ounces. Its length from the point of the Beak to the end of the Tail was twenty eight inches. The Wings extended were equal in breadth to sixty four Inches. The Beak from the tip to the corners of the mouth was two inches long. The upper Chap hung down half an Inch.

The colour of the upper part. The Head and Chin are of a pale ash-colour, varied with black lines along the shafts of the feathers. The Neck red, the middle part of the feathers being black. The Back dusky or brown like a *Buzzards*. The feathers next the Tail of the same colour with it, having their middle parts or shafts black. The lesser rows of Wing-feathers are party-coloured of red, black and white; the middle part of each feather along the shaft being black. The long Scapular feathers covering the Back have black lines like the flags. The feathers covering the inside of the Wing are red, with

The colour of the nether side. black spots in their middles. The Plumage of the lower side hath the edges ash-coloured, then follows red, the middle part being black: The black part is by degrees less and less from the Chin to the Tail; so that under the Tail only the shafts of the feathers are black: The red colour is also more dilute toward the Tail.

The first row of Wing-feathers. The flag-feathers of the Wings are in number twenty four, of which the five outmost are black, the next six are of a dark cinereous colour; all the rest to the last are again black; the last are particoloured of red, white, and brown. All but the five or six exteriour feathers have in their outward webs black transverse lines, the spaces between the lines being whitish, especially from the sixth to the eleventh. The foremost of the second row of Wing-feathers are black; as also the bastard Wing. The Wings closed are longer than the middle feathers of the Tail shorter than the outmost.

The Tail. The Tail is forked, the middle feathers being eleven Inches long, the outmost fourteen. The colour red [*ruffus.*] The extreme feathers blackish: All but the two middlemost have black, cross lines, the middle spaces or distances being whitish. The tips of all are white.

The Beak, Tongue. The Bill is black, having scarce any tooth-like *Appendices:* The Tongue broad and thick, as in other carnivorous Birds. In the Palate there is a Cavity equal to the

Sear. Tongue. The Sear or skin about the Nosthrils is yellow. In the roof of the mouth

Eyes. is a double cranny or hole. The Eyes are great: The *Irides* of a pale, but lovely yellow.

The Feet, Toes and Talons. The Legs and Feet yellow: The outmost foretoe joyned to the middle one by a Membrane, reaching almost half way. The Talons black; that of the back-toe being the greatest. The Talon of the middle toe hath a sharp edge on the inside.

The Entrails. It hath a great Gall; a large Craw. The streight gut below the *Appendices* is much dilated, as in other of this kind.

Manner of flying. Spreading its Wings it so ballances it self in the Air, that it can rest as it were immovable a long time in the same place; yea, without at all, or but rarely moving its Wings, it glides through the Air from place to place; whence perchance it took its English name *Glead.*

By the figure of its Tail alone it is sufficiently distinguished from all other Birds of prey we have hitherto seen.

Her Tail serves her for a Rudder, to direct her flight. *This sort of Birds* (saith *Pliny*) *seems to have taught men the Art of steering a Ship by the turning of their Tails; Nature shewing in the Air what was needful to be done in the Deep.* For hence (as *Aldrovandus* goes on) it is probable that men learned to apply a Rudder; *viz.* When they saw the *Kite*, by turning her Tail sometimes this way, sometimes that way, to direct or vary her course, and turn about her body at pleasure; they also attempting somewhat like, added the Helm to the Ship, by winding and turning whereof to and fro they could direct and impel it whither they pleased, which otherwise would be driven uncertainly and at random by the Winds and Tides.

Kites said to be Birds of passage. *Kites* they say are Birds of passage, shifting places according to the seasons of the year. When I was once (saith *Bellonius*) on the shore of the *Euxine* Sea, on *Thrace*-side, about the latter end of *April*, on a certain very high Hill, near to that Pillar which is at the mouth of the *Bosphorus*, where a Fowler had spread Nets for catching of *Sparrow-Hawks*, which came flying from the right side of the Sea; we observed

ſerved *Kites* coming thither in flocks, and that in ſo great numbers, that it was a miracle to us. For being as it were aſtoniſhed at the ſtrangeneſs of the ſpectacle, we could not conceive where ſuch a multitude of *Kites* could get themſelves food. For ſhould they for but fifteen days ſpace fly continually that way in ſuch numerous ſquadrons, I dare confidently affirm, they would exceed the number of men living upon the Earth. Howbeit, with us in *England* they are ſeen all the year, neither do they fear or fly our Winters.

Their food and preying.

Pliny writes, that *Kites* feed upon no other meat but fleſh: But *Bellonius* affirms, That in *Cayro* a City of *Egypt* he hath ſeen them light upon *Palm-trees*, and eat the Dates, But no queſtion they do ſo only being compelled by hunger, and for want of their natural and familiar food. They are very noiſom to tame birds, eſpecially *Chickens*, *Ducklings*, and *Goſlings*; among which eſpying one far from ſhelter, or that is careleſly ſeparated a good diſtance from the reſt, or by any other means lies fit and expoſed to rapine, they ſingle it out, and fly round, round for a while, marking it; then of a ſudden dart down as ſwift as Lightning, and catch it up before it is aware, the Dam in vain crying out, and men with hooting and ſtones ſcaring them away. Yea, ſo bold are they, that they affect to prey in Cities and places frequented by men; ſo that the very Gardens, and Courts, or Yards of houſes are not ſecure from their ravine. For which cauſe our good Houſewives are very angry with them, and of all birds hate and curſe them moſt.

The *Grecians* call it, Ικτίνος, and Ικτῖνος, but more commonly Ικὸς.

§. VI.

The More-Buzzard: Milvus Æruginoſus *Aldrov.* an Circus *Bellonii?*

Its Bigneſs, and meaſures.

IT is leſſer than the *Buzzard*, of about the bigneſs of a *Crow*. The Head is not ſo great, nor the Crown ſo flat and broad as in a *Buzzard*. Its length from the point of the Bill to the end of the Tail is more than twenty Inches. The diſtance between the tips of the Wings ſpread fifty Inches. The Beak about an Inch and half long, hooked, covered at bottom with a yellowiſh green skin or *Sear*; elſe black. The Noſthrils not round but long, of the figure of a *Guiny Bean* or Kidney. The Mouth withinſide partly black, partly blewiſh. The Tongue broad, fleſhy, ſoft, as in other birds of prey. The hole or cleft in the Palate wide and open. The Eyes of a mean ſize, having yellow *Irides* [in the bird that I deſcribed at *Rome*: But Mr. *Willughby* writes, that they are between an Aſh and Hazel colour.]

Beak.

Nares. Mouth. Tongue. Eyes.

Its colour.

The Crown of the head is of a kind of clay colour, [of a pale fulvous, or between yellow and * *ruffus*] variegated with black lines, *viz.* the ſhaft of each feather being black. The colour of the whole body, as well lower as upper ſide is a dark ferrugineous, only at the middle joynt of both Wings there is a ſpot of the ſame reddiſh clay-colour [*ex fulvo albicans*] with the head, and the feathers at the root or riſe of the tail are fulvous.

* A S. ndy red.

The Wings and their prime feathers.

The Wings cloſed reach almoſt to the end of the Tail. The number of flag-feathers in each Wing is twenty four. Theſe are blacker than the reſt of the feathers: The outmoſt is above a hand-breadth ſhorter than that next to it. The covert-feathers of the underſide of the Wing are particoloured, brown and fulvous. The Tail is about nine Inches long, made up of twelve feathers of equal length when it is ſpread, terminated in a circular Circumference, being particoloured of a dark and light fulvous or bay. The Legs are about an hand-breadth long, feathered down a little below the knee, longer and ſlenderer for the bigneſs of the bird than in others of this kind. The Legs and Feet yellow; the Talons black. The outer Toe in joyned to the middle by an intermediate Membrane, reaching from the divarication up almoſt half way. The Talon of the middle Toe is thinned on the inner ſide into an edge. The Gall is large: The blind Guts ſhort and ſmall: The Stomach membranous; in that we diſſected full of the limbs of Birds and other fleſh.

The Tail.

The Legs.

Toes and Talons.

The entrails.

The More-Buzzard deſcribed.

The Bird here deſcribed we ſuppoſe to be that called in *England* the *More-buzzard*, common to be ſeen in Heaths and Waſts; ſitting upon ſmall trees and ſhrubs: With long ſlender yellow Legs: The whole Body of a dark colour, the interiour *Remiges* being paler or whitiſh; and which is ſaid to build in Fenny places.

I take this Bird to be the ſame with that *Bellonius* deſcribes under the title of *Circus*, as will appear to any one that ſhall compare the deſcriptions; although *Aldrovandus* makes them to be diſtinct Species, treating of them in ſeveral Chapters.

This Bird is sufficiently characterized by its uniform brown-bay or ferrugineous colour all the body over.

§. VII.

* *The Brasilian Kite called* Caracara, *and by the Portugueſe* Gaviaon. Marggrav.

* Sparrow-hawk.

IT is a kind of * *Niſus* of the bigneſs of a *Kite*; hath a Tail nine Inches long. The length of the Wings is fourteen Inches; which yet do not reach to the end of the Tail. The colour of the whole Plumage is tawny with white and yellow ſpecks. The Tail is particoloured of white and brown. It hath a Hawks Head, a hooked Bill of a moderate bigneſs, and black colour. It hath yellow Legs; Hawks Feet; ſemicircular, long, ſharp, black Talons. It is very noiſom to Hens.

I had (ſaith he) another of the ſame magnitude and colour with the precedent, ſave that the breaſt and belly were white. The Eyes of a gold colour, and the skin about them yellow. The Legs yellow.

For the bigneſs, colour, and preying upon Poultry, we have ſubjoyned this to the *Kites* notwithſtanding *Marggravius* maketh it a kind of *Niſus* or *Sparrowhawk*.

Chap. IX.

Of long-winged Hawks, uſed to be reclaimed for fowling.

§. I.

* *Of the Peregrine Falcon.*

MR. *Willughby* having left no deſcription of a *Falcon*, and it having not been our hap ſince his deceaſe to ſee any Hawk of that kind, leſt the *Ornithology* we ſet out ſhould be defective and imperfect in this particular, we have borrowed of *Aldrovandus* the deſcriptions of the ſeveral ſorts of Falcons without omitting any. We are not a little troubled that we cannot give any light to this * *Genus*: For we vehemently ſuſpect, that *Species* are here multiplied without neceſſity.

* Family or kind.

Its Name.

Aldrovandus aſſigns the firſt place to the *Peregrine Falcon* for its courage and generoſity. It took its name either from paſſing out of one Country into another, or becauſe it is not known where it builds, its Neſt having not been any where found. Of this kind *Beliſarius* makes two *Species*, *Carcanus* four, the difference being taken from the colour.

Its Shoulders, Wings, Train. The Feet, Toes, Talons, Thighs, Beak, Nares, Eyes. Head. Its Neck, Breaſt, Brows, Eyes. Head, Back.

A *Peregrine Falcon* every way compleat muſt have theſe marks, Broad and thick ſhoulders; long Wings reaching to the end of the Train; the Train long, narrower by little and little, and ſharper toward the end, like a Sparrow-hawks, made up of large, thick, round feathers, the tip not altogether white; the ſhafts running along the middle of the feathers of a lovely red; the Feet of the ſame colour with thoſe of a *Bittour*, *viz.* of a pale green, or between a yellow and lead-colour; the Toes ſlender; the Talons large, black, and very ſharp; the colour of the Feet and Beak the ſame; the Thighs long, but the Legs ſhort; the Beak thick; the Mouth wide; the *Nares* large and open; the Eye-brows high and great; the Eyes great, and deep ſunk; the Head arched, the Crown being gently elevated and round. As ſoon as it can fly it ſhould ſhew certain little briſtly feathers, ſtanding out as it were a beard. Let the Neck be long, the Breaſt broad, and about the Shoulder-blades where it joyns to the Neck ſomewhat round. Sitting upon the Fiſt it muſt bend its body a little backward, being briſk, mordacious and greedy. Let its Eye-brows and Cheeks be white with a little mixture or daſh of red: The Eyes black, encompaſſed with a Circle or *Iris* that is ſometimes blue; the Head aſh-coloured, like that of a *Sacre*: The Back of ſomewhat a livid colour, almoſt like that of a *Gooſe*; covered with round and broad feathers. The marks of the Wings agree to the ſecond *Peregrine Falcon* of *Beliſarius*, which he makes to be of a Copper [*Æneo*] colour. For the firſt kind, which he ſaith is blacker, hath neither an aſh-coloured Crown, nor a yellow; and hath its throat ſpotted with long, direct, black lines; and its Thighs marked with tranſverſe ones: Its Legs alſo are of a Saffron colour, but more dilute.

Aldrovandus

Aldrovandus describes a Bird of this kind, taken in the Mountains of the Territory of *Bononia*, in these words. From the top of the Head to the end of the Tail it was seventeen Inches long. The Crown of the head flat and compressed: The Beak an Inch thick, of a lovely sky-colour, bending downward with a sharp hook, short, strong, joyned to the head with a yellow Membrane of a deep colour, which compasses the Nosthrils; the Eye blue, the edges of the Eye-lids round yellow. The Head, Neck, Back, Wings of a dark brown, almost black, sprinkled with black spots in almost every feather, the great feathers being crossed with transverse ones. The black Peregrin Falcon of *Aldrovand.* Its Length. Head, Beak, Eyes, Colour,

The Throat was of a yellowish white, the lower part thereof being stained with black spots, as it were drops drawn out in length from the corners of the Mouth on each side a black line was drawn downwards almost to the middle of the Throat or Gullet. The Breast, Belly, and Thighs white, crossed with broad, transverse, black lines. The tips of the Wings, when closed, reached almost to the end of the Train. The Train less dusky, marked also with black cross bars. The Legs and Feet yellow; the Thighs long, the Shanks short; the Toes slender, long, covered with scales, as are also the Legs; the Talons black, and very sharp. The Throat, Wings. Tail, Legs, and Feet, Talons.

Aldrovandus thinketh this black *Peregrine Falcon* not to differ at all from the *black Falcon* simply so called, or the *Falconarius* of the *Germans*, but to be the very same with it.

What *Aldrovandus* hath concerning the place, flight, conditions, manner of catching this *Hawk*, &c. See in his * *Ornithology*. It flies and preys upon *Geese*, *Ducks*, and other *Water-fowl*.

§. II.

* *The Sacre*, Falco Sacer.

Aldrovandus brings several descriptions of the *Sacre* out of *Albertus Magnus*, *Belisarius*, the Emperour *Frederick*, *Carcanus* and *Bellonius*. The Emperour *Fredericks* description (which to me seems better than that of *Albertus*) is as follows. *Fredericks* description of the *Sacre*.

Sacres for bigness of body approach to *Jer-Falcons*; being greater than other *Falcons*, but lesser than *Jer-Falcons*. They have a great round head: A shorter Beak, a slenderer and longer body in proportion, longer Wings, and also a longer Train, a Breast less fleshy and full in respect of their body than *Jer-Falcons*: And also shorter Toes.

Bellonius thus briefly describes it. The *Sacre* hath fouler feathers to look upon than any other Bird of prey. For they are of a colour between red and * fuliginous, very like to *Kites*. It hath short Legs and blue Toes. *Bellonius* his description. * Sooty.

Carcanus the *Vicentine* gives a fuller description of it in these words. The *Falcons* called *Sacres* are bigger than even the larger *Peregrines*. Their head is very grey; their Crown flat, and like to that of a fork-tail'd *Kite*. Their Eyes black and great: Their Beak blue; their Nares for the most part small: The figure of the body oblong: The spots of the Breast brown, as is also the back and upper side of the Wings: The inside of the Thighs white; the Train long and varied with semicircular spots, resembling the figure of *Guiny Beans* or Kidneys: The Wings also large and long. The Legs and Feet are almost wholly blue: Compared with the rest of the body not very great. Those of one year commonly called *Sores* differ a little from those that have mewed their feathers. For these have the spots of their Breasts a little blacker and rounder than the *Sores*. Their Feet also are somewhat white, and in some spotted with a little yellow. Almost all of them have their Backs reddish, inclining to cinereous, as in *Turtles*. Yet in some, as well of the *Sores* as of those that have mewed their feathers, the Back and upper side of the Wings is black. *Carcanus* his description. Their bigness, Head, Eyes, Beak, Nares, Figure, Colour, Train, Wings, Legs. How the *Sores* differ from those that are mewed.

Which of these descriptions agrees best to the *Sacre* let them judge who have opportunity of seeing this Bird, and will, and leisure to compare them with it.

So great is the strength, force, and courage of this Hawk, that (as *Albertus* reports) there is no Bird so great which she doth not presently strike down: And not only one at a time, but as many as come in her way. She catches also Fawns, Kids, *&c.* She is supposed to be called *Sacre*, either from her bigness, or because all other birds fear her, and fly from her.

§. III.

* *The Jer-Falcon, whose Male or Tarcel is called the Jerkin.*

The name. IT seem to take its name from the *High Dutch* word *Gyrfalc*, *i.e.* a *ravenous Falcon*, or *Vulturine Falcon*: for *Gyr* in *High Dutch* signifies a *Vulture*.

Its Bigness; This, however *Aldrovandus* contradicts it, exceeds all other *Falcons*, even that called the *Sacre* in magnitude. Of that which *Aldrovandus* described this was the shape: The Crown was plain and depressed, of an ash-colour. The Beak thick, strong, short, blue; bowed downward with a mean-sized hook, but very sharp, strong, and blewish. The Pupil of the Eyes very black, the *Iris* or Circle encompassing the Pupil blue. The Back, Wings, Belly, and Train were white: But the feathers of the Back and Wings were almost every one marked with a black spot, imitating in some measure the figure of a heart, like the Eyes in a *Peacocks* tail. The flag-feathers of the Wings near their tips beautified with a bigger and longer black mark, which is yet enclosed with a white margin or border. The Wings very long, so that they wanted but little of reaching to the end of the Tail. The Throat, Breast, and Belly purely white, without any spots at all. The Tail not very long, yea, in respect of its body and those of other *Falcons* rather short, marked with transverse black bars. The Legs and Feet of a delayed blue. The Legs thick and strong. The Toes long, strong, broad-spread, covered all over with a continued *Series* of board-like Scales.

Crown, Beak. Eyes, Colour of the feathers. The Wings. Colour of the Breast. The Train. Legs and Feet.

Of *Gyrfalcons*, according to *Carcanus*, there be divers kinds, distinguished by the colours of their feathers.

The shape of a good Jer-falcon. *Frederick* the Emperour doth thus describe the shape of a good *Jer-Falcon*. The upper part of the Head must not be raised upward into a bunch, but every where equal: The forepart of the Head large and broad; that part also above the Eyes large: The Eye-brows high or standing out [*eminentia.*] The Eyes hollow: The Nosthrils great and open: The Beak thick, crooked, and hard: The Neck toward the Head slender, toward the shoulders thick. The Body must grow uniformly narrower and sharp all along to the very Tail, observing that form which *Geometricians* call *Pyramidal*. It must have Wings elevated toward the back, not hanging down, but when gathered up, near the Tail so lying one upon the other, that they intersect one another in form of a Cross. The beam-feathers of the Wings, as well those that cover, as those that are covered, that is, as well the upper as the under ones must be broad and hard. The covering feathers by how much the more they cover the others, by so much the more commendable are they. The Tail-feathers when it doth not fly are gathered up in a lump under the two uppermost [that is, the middlemost] which are called the coverers. The Gullet [*Gula*, I suppose he means the Craw] must be large and deep, and after much meat taken in, swell a little, and be round when full of meat: The Breast prominent outward, fleshy, and thick. The Thighs great: The Legs short and thick: The soles of the Feet also thick and large; the Toes long, lean, rough, scaly, and well spread: The Talons slender, crooked, and sharp.

Its head, Forehead, Eyes, Nares, Beak, Neck, Body, Wings. Wing-feathers. Train feathers. Craw. Breast. Legs, Feet, Talons.

It is a couragious, fierce, and very bold Bird, catching all sorts of Fowl how great soever, and is terrible to other *Falcons* and *Goshawks*. It chief Game are *Cranes* and *Herons*.

Its Nature and Game.

§. IV.

* *The Mountain Falcon.*

THe greatest part of these *Falcons* are of a mean stature: Few found very big: Many of a small body, and that in some round, in some long. *Albertus* attributes to a *Mountain Falcon* almost the same bigness as to a *Goshawk* [*Asturi*] only makes it shorter bodied: Gives it a round Breast, and when it stands on its feet a Pyramidal figure, resembling a Pyramid somewhat compressed on that side the back makes. Almost all of them have a round Head, a taper [*fastigiatum*] Crown, and black, encompassed with a kind of ash-coloured Coronet: In the Forehead, not far from the Beak, stand up certain very fine and slender feathers, as it were hairs, among the black or brown ones, which yet are but few, and in some Birds none at all. They have a thick, short, black Bill; narrow Nosthrils; small Eyes and Eye-lids. The

Its figure, Head, Beak, Nares, Eyes,

Throat

Throat as far as the breaſt-bone is ſomewhat whitiſh, beſprinkled with good great ſpots. The reſt of the Breaſt is beautified with certain marks, which are ſometimes ferrugineous, ſometimes red, ſometimes blackiſh, and beſides theſe with other ſmaller ſpecks. In ſome the Throat and Breaſt are cloathed with black feathers; the inſide of the Thighs black: The Back and Loins covered for the moſt part with ſmall brown feathers: Some of which below the middle of the back have certain whitiſh or reddiſh lines tending downwards. Others have their Backs purely aſh-coloured, or of the colour of that ſort of *Wild Gooſe*, which the *Vicentines* call *Baletta*: The Wings not long like a *Peregrines*: The Tail alſo ſhorter than theirs, and for the greater part variegated like that of a *Keſtrel*. There are ſome whoſe Tail is like that of a *Sacre*, but they are very rare. They have for the moſt part their Legs and Feet of a Saffron colour; but ſome of a ſtraw colour; and covered with very thick-ſet Scales. Their Feet are leſſer than the *Peregrines*: Their Toes great and fleſhy: Their Talons black. It is eaſier to know them after they are mewed. Their Head is black like a Crows, their Noſthrils covered with a Saffron-coloured skin; the Eyes alſo encompaſſed with a Circle of like colour: Their Neck and Shoulders black; the lower part of the Back toward the Rump blue. The Throat as far as the Breaſt-bone white; but in ſome it ſhews an obſcure red; in others it is blackiſh, in all marked with round ſpots. The Train ſhort and black: The feathers inveſting the Thighs brown. The Legs ſtrong. It is to be obſerved, that by how much the oftner they have mewed their feathers, by ſo much is their Throat [*Gula*] whiter, and its ſpots ſmaller, and the feathers covering their Back and Loins of a deeper blue.

The Throat, Breaſt, Its Colour, Wings. Tail. Legs, and Feet, Its colours when mewed.

Tardivus writes, that it preys only upon great birds, neglecting the ſmaller; that it is very ravenous, mordacious, and of an indocile nature. *Aldrovandus* deſcribes a bird of this ſort that was brought to him, in theſe words. It was eighteen Inches long: The Head great, the Crown gently towring up round: The Beak thick, ſhort, black, ſtrong; of an Inch thickneſs, the point of the hooked part not very ſharp, but it ſtrong; ſo that I doubt whether any other *Falcon* hath a ſtronger, thicker, and more ſtrongly made and compacted Beak than this. The *Nares* are compaſſed with a yellow membrane, The *Iris* of the Eye of a deep black. The edges of the Eye-lids encircling the Eyes yellow. The whole body in general is of one colour, *viz.* a cinereous tending to blue, lighter or darker, according to the different expoſing of the parts to the light. The Neck, Breaſt, Belly, and Back, and conſequently the whole body is very groſs, thick, round, and plump. The Breaſt very round and great: The beginning of the Wings above broad, and leſs ſharp than in other *Falcons*; their tips reaching to about the middle of their Trains, or a little further. The Train of a middle ſize, between long and ſhort. Their Legs and Feet in reſpect of their bodies not very large or thick, covered with Saffron-coloured board-like Scales. Their Talons deep-black.

Its conditions, and Game, *Aldrovands* grey Falcon. Its Head, Beak, Nares, Eyes, Colour, Figure of the body.

§. V.

* *The Falcon Gentle.*

WHereas I find that ſome doubt, whether the * *Gentile Falcon* be a diſtinct kind from the *Peregrine* or no: And whereas the Emperour *Frederick* diſtinguiſhes *Gentile Falcons* into thoſe abſolutely and ſimply ſo called, and *Peregrines*; omitting that prolix deſcription of a *Gentile Falcon*, which *Aldrovandus* brings out of *Frederick*; I ſhall only propound the marks whereby this is ſaid to differ from the *Peregrine*.

* Or *Falcon Gentle.*

Gentile Falcons are leſs than *Peregrines*, have a rounder and leſſer Head; a ſhorter Beak; and Feet alſo for the proportion of the body ſmaller. Beſides, the colour is leſs bright, lively, and fair in theſe than in thoſe. When they have mewed their firſt feathers, they become very like the *Peregrines*, but more ſpotted in their Trains and Backs.

How the Falcon Gentle differs from the Peregrine.

Beliſarius makes the only difference between the *Gentile* and *Peregrine Falcon* to be in their manner or geſture in flying: For the frequent agitation of the Wings in flying ſhews the *Hawk* to be a *Gentile Falcon*: The motion of the *Peregrines* Wings being like that of the Oars of Gallies. Moreover, they differ from *Peregrines* in this, that they are not ſo ſwift.

Aldrovandus thinks, that the Falcon which *Carcanus* calls the *Dutch* or *German Falcon* is the ſame with this: The which he thus deſcribes. The *Dutch Falcons* are almoſt all

The deſcription of the German Falcon,

all great-bodied. The greater part of them of an oblong figure, and ſome moderately round: Very like to the *Peregrine* for Shape, Head, Beak, and Feet. The Thighs on the inſide covered with white feathers. The Wings great: The Train long. Almoſt all the feathers are of a brown colour. For the greateſt part of their bodies they are like a brown *Peregrine*, excepting the Head and Shoulder-blades, which in the *Dutch* are a little blacker. A white Coronet encompaſſes their Head near the Neck. The ſpots of the breaſt in moſt are brown and great, in ſome ferrugineous and oblong. But in ſuch as are mewed, that is, have caſt their firſt feathers, the Head, Neck and Shoulders are brown; the Back of an Azure-colour, diſtinguiſhed with tranſverſe brown marks: The Throat white, ſpotted with great lines. The Breaſt darker than in the *Peregrine:* But the Feet like that of the *Peregrine*. The Males or Tarcels of theſe *Dutch Falcons* can by no means be diſtinguiſhed from the Males of the *Peregrines*, they are in all things ſo like the one to the other. Beſides, they do ſo reſemble the *Peregrines*, not only in the external ſhape of their bodies, but alſo in their nature and conditions; that none but a very quick-ſighted, cunning, and well practiſed Falconer is able to diſtinguiſh them.

The German Falcon differs little or nothing from the Peregrine.

§. VI.

* *The Haggard Falcon*; Falco gibboſus.

IT is ſo called becauſe by reaſon of the ſhortneſs of the Neck, the Head ſcarce appears above the points of the ſhoulders, or Wings withdrawn and clapped to the ſides of the Back; ſo that it ſeems to have a bunch on its back. The *Germans* call it *Ein Hagerfalck*, or rather *Hogerfalck*, whence the *Latine* name *Gibboſus:* For the *Germans* call a bunch *Hoger*. Our *Engliſh* Writers of *Falconry*, as far as I underſtand them, call the *Peregrine Falcon* the *Haggard Falcon*, uſing thoſe names promiſcuouſly: Wherefore we ſhall not enlarge further concerning this Hawk; eſpecially ſeeing what *Aldrovandus* hath of it, is all taken out of *Albertus Magnus*; on whoſe credit we do not much rely.

§. VII.

* *The white Falcon.* Falco Albus.

OMitting again what *Aldrovandus* hath borrowed out of *Albertus* concerning the *White Falcon:* we will only tranſcribe out of him, the deſcription of the *Falcon* ſent him by his Nephew *Julianus Griffonius*, which he received from *Angelus Gallus* of *Urbin*, a Knight of *Malta*.

Its Colour, Wings, Train, Beak, Feet, Eyes.

Its whole body was milk-white, only ſpotted with yellow ſpots, the which themſelves alſo appeared white, unleſs one heedfully and intently beheld it. The Wings were like thoſe of other the moſt beautiful Hawks, but purely white, and without ſpots. The Tail had twelve feathers alike white, and ſpotted with yellow; the ſight whereof the uppermoſt feather (which was wholly white, and covered the reſt, hiding them as it were in a ſheath) took away. The Beak alſo was rather white than blue. The Feet, after the manner of other Hawks, yellow. The Eyes yellow and black: And that yellow nothing deeper than in a Hawk not yet mew'd, which we commonly call a *Sore*; although I cannot believe that this was a *Sore*. For it might ſo come to paſs, that it might retain that yellowneſs from a certain temper of body peculiar to this kind: Otherwiſe it would, after it was mewed, neceſſarily incline to whiteneſs. It was of a tall ſtature, a great and ſtately bird: It eat not but with its Eyes uſually ſhut, and that with great greedineſs. It killed *Pullets*.

§. VIII.

* *The Stone-Falcon, and Tree-Falcon.* Falco Lapidarius & Arborarius.

OF the figure of the *Stone-Falcon* theſe few things occur in *Albertus Magnus*. It was of a middle quantity and ſtrength between the *Peregrine* and *Gibboſe* or *Haggard Falcon*.

A full deſcription of the *Tree-Falcon* we have in *Geſner*, which (as Mr. *Willughby* thinks) agrees well to the *Hobby*. The *Tree-Falcon* (ſaith he) is a gallant and generous

rous bird, not unlike to a *Sparrow-Hawk*. From the Bill to the end of the Tail it was four Palms, or ſixteen Inches long. The Feet were of a pale colour, mixt as it were of yellowiſh and green. The Back black: But the tips of the feathers of the Head and Back (eſpecially the lower part of it) were compaſſed with reddiſh Semicircles. The feathers of the Wings were blacker: And the inſide of the Wings [that which is toward the body] ſpotted with great pale-red ſpots. The Breaſt varied with whitiſh and brown ſpots. Certain yellowiſh white feathers made up ſpots behind the Ears, and in the Neck. The Eyes were black; the colour of the Bill blue. The Tail-feathers, all but the two middlemoſt, marked with ſpots.

Its Length. The Feet. The Colour. The Eyes and Bill.

§. IX.

**The* Tunis *or* Barbary *Falcon.*

THis *Bellonius* deſcribes thus: This *Barbary Falcon* is large, approaching to the ſhape and likeneſs of a *Lanner*. For it hath like feathers, and not unlike Feet; but it is leſſer-bodied. Beſides it flies more, and keeps longer on the Wing. It hath a thick and round Head. It is good for Brook-hawking, and ſtoutly ſoars on high in the Air: But for the Field it is not ſo fit as the *Lanner*.

The *Falcon* which our Falconers call the *Barbary* is leſſer than the reſt of this kind, *viz.* The *Peregrine*, *Mountain* and *Gentile*: If thoſe do ſpecifically differ, which we do not think.

§. X.

**The Red Falcon.*

IT is called red, not becauſe it is all over red, but becauſe thoſe ſpots (which in the reſt are white) in this kind are red and black, but not ſo diſpoſed as in others, neither in the Back, nor in the outward part of the Wing. But it doth not appear to be red, but only when it ſtretches out its Wings: For then the dark red ſhews it ſelf in them. It is ſaid to be leſſer than a *Peregrine Falcon*. But this, and whatever elſe *Albertus* and others have delivered concerning the *red Falcon*, are of that nature, that they leave us altogether uncertain, whether there be any ſuch *Falcon* or no, ſpecifically diſtinct from the reſt of this kind.

§. XI.

** The red Indian Falcons of* Aldrovandus.

THe firſt of theſe (which we ſuppoſe to be the Female) hath a greater head than the latter, a broad and almoſt flat Crown, without any riſing in the hinder part of the head, as is ſeen in ſome. The head is of an aſh-colour tending to brown, as is alſo the Neck, the whole Back, and the outſide of the Wings. The Beak very thick; next the Head both above and below all yellow; having a moderate aſh-coloured hook; of which colour is alſo all that fore-part which is bare, beyond the Sear or inveſting Membrane. The Pupil of the Eye is of a deep black; the *Iris* brown, or of a dark Cheſnut-colour. The edges of the Eye-lids round about yellow. From the exteriour and leſſer corner of the Eyes on both ſides is drawn a long ſtroak of the ſame colour with the Breaſt. The whole Breaſt, and alſo the upper part of the inſide of the Wings, the Belly moreover and the Rump, the Hips and Thighs are all fulvous or red, of a pale Vermilion colour. But the Chin in this red colour is marked with a long cinereous ſpot, produced downwards. The Breaſt alſo before is beſprinkled with ſmall ſcattering ſpecks of the ſame colour. The ſides, that are covered with the middle part of the Wings cloſed, are tinctured with the ſame dark cinereous colour. The Wings are very long, their tips reaching much further than the middle of the Tail; croſſing one another about the lower end of the Back. The Train is long, each feather whereof is varied with alternate ſpaces of black (which are the narrower, of a Semicircular figure) and of aſh-colour, which are the broader. The Legs and Feet are yellow, pretty thick and ſtrong: The Talons black and very ſharp.

Its Head. Beak. Eyes. Breaſt. Chin. Wings. Train. The Feet, and Talons.

The other red Falcon described. Its Colour.

The other (which we believe to be the Male) is less by near a third part; for variety of colours almost the same with the former; and those in the same parts, save that (as we hinted also before) the red colour in this is deeper and more evident: Likewise the same coloured Membrane as in the former [I suppose he means that about the Eyes.] Those parts also which in the former are coloured with a dark cinereous, in this are altogether black; *viz.* the upper side of the Wings, the Head, Back, and Tail. Yet may we take notice of some marks peculiar to this, wherein it differs from the other. For the Bill in this is wholly blue, excepting a small yellow membrane covering the Nosthrils, having uneven borders, as it were serrate. The Chin or beginning of the Throat in this is of a little paler red, something inclining to cinereous, but not marked with any spot as in the former. The interiour flag-feathers of the Wings are white, only crossed at due intervals with many transverse brown marks: The rest of the upper side of the Wings is of a very deep fulvous colour, like red Oker. The upper side of the Tail is also adorned with a double variety of transverse spots, to wit, white and ash-coloured inclining to blue, alternately disposed. The Feet and Legs are of a more dilute yellow, or Wax colour.

Its proper marks. Beak. Chin. Wings. Train. Feet.

Both came out of the *East-Indies*.

What is delivered by *Albertus* and others concerning the *blue-footed Falcon* and *bastard Falcon* I omit, as being only general and uncertain; referring the curious, and those that desire to know such things, to the Authors themselves, or to *Aldrovandus*, for satisfaction.

We have a sort of bastard Hawk common enough among us, called the *Boccarel*, and its *Tarcel* the *Boccaret*.

§. XII.

The Crested Indian Falcon.

Its bigness, Head. Crest. Neck. Breast. Beak. Legs and Feet. Wings. Train.

THis Bird brought out of the *East-Indies* we saw in the Royal Aviary in St. *James Park* near *Westminster*, and thus described it. For bigness it was not much inferiour to a *Goshawk*: The Head flat, black, copped, the Crest hanging down backward from the hind part of the head, like a *Lapwings*, but forked. The Neck red. The Breast and Belly were parti-coloured of black and white, the alternate cross lines being very bright and fair. The *Irides* of the Eyes yellow. The Beak of a deep or dark blue, almost black, especially towards the point; for the Base was covered with a yellow Membrane. The Legs feathered down to the Feet: The Feet yellow; the Talons of a dark black. The lesser rows of Wing-feathers had whitish edges. The Train was varied with transverse spaces or beds of black and cinereous alternately. The rest of the feathers were black.

§. XIII.

* *The Lanner, whose Tarcel is called the Lanneret.*

Bellonius his description of it.

The description of the French Lanner. The colour of the Beak, and Feet, Breast, Back, Wings, Train.

THe *Lanner* is less than the *Gentile Falcon*, adorned with fair feathers, and in that respect more beautiful than the *Sacre*. The most sure and undoubted notes whereby one may distinguish a *Lanner* from other Hawks are these; That it have blue Beak, Legs, and Feet: The anteriour or Breast-feathers parti-coloured of black and white, the black marks [or lines] not crossing the feathers, but drawn long-ways down the middle of them, contrary to what they are in *Falcons*. The feathers of the back are not much variegated, as neither those of the Wings or Tail, in the upper or external part. And if perchance there be any spots seen in these, they are small, round, and whitish. But to one that shall view the lower or under side of the Wings extended there will appear marks of a different figure from those of other Rapacious Birds: For they are round, and like little pieces of money, dispersed through the *Superficies*: Although, as we said, the feathers of the Breast, and forepart of the body are varied with spots drawn downwards in length, and situate on their edges. It hath a thick and short Neck, and a like Bill. The Male or *Lanneret* is of a lesser body, but almost the same colour of the feathers. Both Male and Female have shorter Legs than the rest of the *Falcons*.

The Male.

Carcanus

Carcanus his description differs in some things from this of *Bellonius*, which we shall therefore subjoyn. The Head of all *Lanners* is wholly yellow, with a flat Crown. The Eyes black and great: The Nosthrils for the most part small: The Beak short and thick, lesser than that of a *Peregrine Falcon*, and also than that of a *Mountain*; of a blue colour; The Breast yellow, spotted with a few thin-set ferrugineous spots: The Back like a *Peregrine Falcons*: The ends of the Wings spotted as it were with round white Eyes. The Wings and Train long: The Legs short. The Feet much lesser than a *Peregrines*, and blue of colour. In those that are mewed the whole head is tinctured with yellow as far as the shoulders, but inclining to red, and varied with certain slender lines. The Back is blue, crossed with black lines and some golden: The Breast of a deep yellow and without any spots. But the feathers of the Thighs are varied with a few cross lines. The feet in these, which were blue, are changed into yellow. The *Sores* of this kind are very hardly distinguished from those that are mewed.

The Head, Crown, Eyes. Nosthrils, Beak, Breast, Back, Wings, Legs and Feet. The description of those that are mewed.

It seems to be called *Lanarius à laniando, i. e.* from tearing. It is of a gentle nature, of a docile and tractable disposition (as *Bellonius* writes) very fit for all sorts of Game, as well Waterfowl, as Land: For it catches not only *Pies*, *Quails*, *Partridge*, *Crows*, *Pheasants*, &c. but also *Ducks*, yea, and *Cranes* too, being trained up thereto by humane industry. All this is to be understood of the *French Lanner*, for the *Italian* described by *Carcanus* is of no worth or use. *Carcanus* writes, that he could never so train them up, as to make them good for ought.

Why called *Lanarius*. Its Nature and Game.

The *Lanner* abides all the year in *France*, being seen there as well in Winter as in Summer, contrary to the manner of other Rapacious Birds.

Its place.

§. XIV.

The Hobby, Subbuteo, *Aldrov.*

THe Bird we described was a Female, and weighed nine ounces. The length from the tip of the Bill to the end of the Tail was thirteen Inches. The breadth or distance between the tips of the Wings extended two feet and eight Inches. From the tip of the Beak to the Nosthrils was something more than half an Inch. The Beak like that of a *Kestrel*: The upper Mandible prominent, hooked, semicircular; the Base covered with a yellow skin or *Sear*, the part next the skin white; the rest of a dark blue. It hath also a tooth or Angle on each side at the beginning of the hooked part, which is received in a hollow dent or nick in the lower Chap. The Tongue broad and a little cleft or divided. The Palate within side black, and having a Cavity impressed to receive the Tongue. The Nosthrils round: The *Irides* of the Eyes of a Hazel colour: The Eye-lids yellow.

Its Weight, Length, Breadth, Beak, The Tongue. Nosthrils. Eyes.

As for the colour of the Plumage; above each Eye passed a line of a clay-colour, [*ex ruffo albicans.*] The feathers on the top of the head had their shafts or middle part black, their borders of a deep Chesnut: Those on the middle of the Neck again were of a clay-colour, the back and Wings of a dark brown, or cinereous black; those on the Rump and the lesser Pinion feathers being lighter, the greater Pinion feathers, and those on the middle of the back darker. The Chin and upper part of the Throat were white, with a dash of yellow. *To this white were drawn from the head on each side two lines; one from the aperture of the mouth, the other from the hinder part or noddle.

The colour of the feathers.

*This white on the sides of the head is a Characteristic note of this bird.

The lower part of the Belly was reddish, the rest of the Belly and Breast clothed with feathers, spotted with black in the middle, and having their edges white. The Thighs red, spotted with black, but the spots less than those on the Breast. The number of prime feathers in each Wing twenty four, whereof the second the longest. The extreme or outmost had their tips black; all of them their interiour webs varied with transverse clay-coloured spots. The covert-feathers of the underside of the Wings were black, curiously painted with round spots of white diluted with red.

The prime Wing-feathers.

The Tail, as in all of this kind, consisted of twelve feathers, the middlemost whereof were the longest, and the rest in order shorter to the two outermost, which were the shortest. The length of the middlemost was about five Inches and an half, these were on both sides their shafts of one and the same colour; the rest had their interiour Vanes marked with transverse reddish spots; the utmost tips being whitish.

The Train.

The Feet and Talons. The Legs and Feet were yellow: The middle and outmoſt Toes connected as in others of this kind to the firſt joynt: The Talons as black as Jet.

The Entrails. It had a great Gall: The length of the Guts was two foot lacking an inch: The *Appendices* or blind Guts ſhort; beſides which it had another ſingle *Appendix* or proceſs, which was (we ſuppoſe) the remainder of the *Ductus inteſtinalis* ſhrunk up.

Its principal Game. The *Hobby* is a bird of paſſage, yet breeds with us in *England*. Its Game is chiefly *Larks*, for the catching of which Birds our Fowlers make uſe of it thus. The Spaniels range the field, to find the birds: The *Hobby* they let off, and accuſtom to ſoar aloft in the Air over them. The *Larks* eſpying their capital enemy, dare by no means make uſe of their Wings, but lie as cloſe and flat upon the ground as they can; and ſo

Daring of Larks. are eaſily taken in the Nets they draw over them. This kind of ſport is called, *Daring of Larks*.

To catch Hobbies. To catch theſe Hawks, the Fowlers take a *Lark*, and having blinded her, and faſtned Lime-twigs to her Legs, let her fly where they ſee the *Hobby* is, which ſtriking at the *Lark* is entangled with the Lime-twigs.

An account of the names. The Bird is called in *Greek* Ὑποτριόρχης, that is, the leſſer Τριόρχης or *Buteo*; which *Pliny* renders in *Latine*, *Subbuteo*. It is called in Engliſh, *Hobby*, after the *French* name.

§. XV.

The Keſtrel, Stannel, or Stonegall, in Latine Tinnunculus *or* Cenchris.

Its bigneſs, Weight, Length, Breadth, Beak, THe Female is about the bigneſs of a *Pigeon*. That we deſcribed weighed nine ounces. Its length from the point of the Beak to the end of the Train was fourteen inches and a quarter: Its breadth, or the diſtance between the tips of the Wings extended two foot and an half. The Beak ſhort, prominent, hooked, and ſharp-pointed: The Baſe of the upper Chap covered with a skin or membrane, in which are the Noſthrils. The middle part of the Beak next the *Sear* is white, the reſt of a dark blue: Where it begins to bend it hath a Tooth or Angle, which is received

Noſthrils. Tongue. Eyes. Mouth. in a dent or cavity in the lower Chap. The Noſthrils round: The Tongue cleft: The Eye-lids yellow; the Eyes defended by prominent brows. It hath a wide mouth, and the Palate blue.

Head. The Head is great; the Crown broad and flat, inclining to an aſh-colour, and

Colour of the back. marked with narrow black lines along the ſhaft of each feather. The back, ſhoulders, and covert-feathers of the upper ſide of the Wings ferrugineous, marked with black ſpots, *viz.* each feather being reddiſh hath a black ſpot toward the tip. The Rump

Colour of the nether ſide. is cinereous, having the like tranſverſe black ſpots. The lower or nether ſide of the body, that is the Breaſt and Belly, was of a paler red or ferrugineous, varied with black lines drawn downwards along the ſhafts of the feathers. The Chin and lower belly without ſpots.

Prime Wing-feathers. The flag-feathers of the Wing are in number twenty four: The exteriour of which are of a brown or dusky colour, but their interiour Vanes are partly of a reddiſh white, indented with the brown like the teeth of a Saw. The ſix or ſeven next to the body are red, having their interiour Vanes marked with tranſverſe brown ſtroaks. The inner or under ſide of the Wing is white, with black ſpots.

Its Train. The Train made up of twelve feathers was above ſeven inches long. The outmoſt feathers ſhorteſt, the reſt in order gradually longer to the middlemoſt. The utmoſt tips of the feathers were of a ruſty white. Then ſucceeds a black bar or ring of an inch broad; the reſt of the feather being of a ruſty aſh-colour, marked with tranſverſe black ſpots.

The Legs, and Talons. The Legs and Feet are of a lovely yellow, and the Talons black.

The Inwards. It had a Gall. In the ſtomach we found *Beetles* and fur of *Mice*. The length of the Guts was twenty eight Inches. The ſingle blind gut [*Appendix inteſtinalis*] was

How the Male differs from the Female. twice as long as the lower *Appendices* or blind Guts. The Male or Tarcel differs from the Female chiefly in being leſs, and having the head and back of an aſh-colour.

Their Game. *Keſtrels* are wont commonly with us in *England* to be reclaimed and trained up for fowling, after the manner of other Rapacious birds. They catch not only ſmall birds, but alſo young *Partridge*.

They

They build in hollow Oaks and other trees; and that not after the manner of *Crows*, upon the boughs, but after the manner of *Jackdaws*, always in holes, as *Turner* ſaith he himſelf obſerved. *Ariſtotle* makes the *Keſtrel* the moſt fruitful or beſt breeder among Birds of prey; yet neither doth ſhe (ſaith he) lay more Eggs than four at once. Her Eggs are whitiſh, all over ſtained very thick with red ſpots, whence *Ariſtotle* and *Pliny* write, that they are red like Vermilion: Indeed, they deſerve rather to be called red than white. Neſt and Generation.

It is called Κεγχρὶς from Κέγχος, ſignifying *Millet*, as if one ſhould ſay the *Millet-bird*, for the ſame reaſon as *Geſner* thinks, that a kind of Tetter [the Swine-pox] is called *Herpes miliaris*, becauſe it is marked or motled with ſpecks like *Millet* ſeed. The Names.

This Bird is by ſome called the *Wind-hover*, of which name we have elſewhere given an account.

§. XVI.

The Merlin, called in Latine Æſalon.

Bellonius hath recorded that the *Merlin* is the leaſt of all thoſe birds our Falconers uſe for hawking; and truly, if we except only the *Matageſſe* or great *Butcher-bird* (which is ſometimes reclaimed for ſmall birds) ſo it is. It is not much bigger than a *Black bird*. The length from the tip of the Bill to the end of the Tail in that we deſcribed was fourteen Inches, to the end of the Toes twelve and an half. The Beak was blue, and had an angular *Appendix* or tooth on each ſide: The *Irides* of the Eyes of a hazel colour: The back and upper part were particoloured of a dark blue and a ferrugineous: The ſhaft and middle part of the feathers of the Head and Wings were black, the edges blue: The flag-feathers of the Wings black with ferrugineous ſpots. The Train five inches long, of a dark brown or blackiſh, with tranſverſe * white bars: Of theſe black and white ſpaces were fourteen in all in the Female; in the Male or Tarcel but ten. The Breaſt and Belly were of a ruſty white, with brown ſpots, not tranſverſe, but tending downwards from the Head toward the Tail. The Legs were long, ſlender, and yellow: The Talons black. Below the Head it had a ring of yellowiſh white, encircling the Head like a Coronet. In the older Birds the back grows bluer as in other Falcons. Its Bigneſs. Length and Breadth. Beak. Eyes. The colour of the upper part, and Wings. The Train. * Pale-red or clay coloured. Colour of the lower ſide. The Legs and Talons.

In the Males the feathers on the Rump next the Tail are bluer. By which note and their bigneſs Falconers diſcern the Sex. For the Female in this, as in other birds of prey, is greater than the Male, being for colour leſs red, with a certain mixture of blue. In the Train of the Male we deſcribed were only five croſs pale-red bars (as we ſaid before) the intermediate black ſpaces being broader. The Train was five Inches long, the whole bird thirteen. How the Male or Tarcel differs from the Female.

The *Merlin*, though the leaſt of Hawks, yet for ſpirit and mettle (as *Albertus* truly writes) gives place to none. It ſtrikes *Partridge* on the Neck, with a fatal ſtroke, killing them in an inſtant. No Hawk kills her prey ſo ſoon. They fly alſo *Heath-pouts* with it. The Merlin a mettled bird.

Chap. X.

Of ſhort-winged Hawks.

§. I.

The Goſhawk, Accipiter Palumbarius.

IT is bigger than the common *Buzzard*: Of a dark brown or *Buzzard* colour on the head, neck, back, and upper ſide of the Wings. The whole Breaſt and Belly white with tranſverſe black lines ſtanding very thick. The Thighs are covered over with reddiſh feathers, having a black line in the middle down the ſhaft. The Legs and Feet are yellow; the Talons black. The Beak blue, and the *Sear* of a yelowiſh green. Its Bigneſs. Colour. The Feet, Talons, and Beak.

The Wings, when cloſed, fall much ſhort of the end of the Train, by which note alone and its bigneſs it is ſufficiently diſtinguiſhed from all other Hawks. The Train is long, The Wings. Train.

long, of a cinereous or dun colour, with four or five croſs blackiſh bars, ſtanding at a great diſtance each from other. In each feather of the Breaſt there is a black circular line near the top, running parallel to the edges of the feather, and in ſome alſo the ſhaft and middle part of the feather is black.

Its Game. It takes not only *Partridge* and *Pheaſant*, but alſo greater Fowl, as *Geeſe* and *Cranes*: Sometimes alſo it catches *Conies*. Our Engliſh Authors who have written of *Falconry* make this the ſame with the *French Autour* or *Aſtur*, although *Aldrovandus* would have the *Aſtur*, which he takes to be the *Aſterias* of *Ariſtotle*, to be a different bird. But I ſuppoſe the *Goſhawk* was not well known to *Aldrovandus*.

§. II.

The Sparrow-hawk, Accipiter Fringillarius ſeu Niſus Recentiorum.

Its bigneſs, length, and breadth. IT is almoſt as big as a *Pigeon*. Its length from Bill-point to Tail end about fourteen inches: The diſtance between the tips of the Wings extended twenty ſix Inches.

Beak, Its Beak is ſhort, hooked, blue, black toward the tip: The Baſis of the upper Chap covered with a yellowiſh green skin, (which they call the *Sear* or rather *Cere* from the Latine word *Cera*, ſignifying wax, becauſe it is for the moſt part of a Wax-colour,) having an angular *Appendix* or tooth on each ſide under the Noſthril. The

Nares, Tongue, Eyes, Crown. Noſthrils are oblong; the Palate blue; the Tongue thick, black, and a little cleft: The Eyes of mean ſize, with yellow *Irides*, over-hung by brows, prominent like the Eaves of a houſe. The Crown of the head is of a dark brown: Above the Eyes, and in the hinder part of the head ſometimes are white feathers. [The bottoms of the

Colour of the upper ſide, feathers in Head or Neck are white.] The reſt of the upper ſide, Back, Shoulders, Wings, Neck, are of the ſame dark brown, excepting ſome feathers of the Wings which are ſpotted with white. [In another bird the Head and Wings were of a dark

Underſide. aſh-colour or blue,] The colour of the under ſide, *viz.* the Neck, Breaſt, Belly, Sides, and Wings various, of white and blackiſh, or ruſſet: Ruſſet waved lines thick-ſet croſſing the whole Breaſt and Belly, and indeed, each ſingle feather; the white intermediate ſpaces are broader than the ruſſet lines. The feathers under the Chin and by the Legs of the lower Mandible are white, only their middle parts about the ſhaft, eſpecially toward the tip, brown or ruſſet.

The Wings, The Wings when cloſed ſcarce reach to the middle of the Tail. The flag-feathers are twenty four, in whoſe under ſides appear, on the interiour webs of each, dark tranſverſe marks or ſpots.

Train, The Tail is almoſt two Palms long, conſiſting of twelve feathers, having five or ſix croſs black bars. The tips of the feathers are white. The Thighs are ſtrong and fleſhy,

Legs and Toes, as in all birds of prey; the Legs long, ſlender, yellow; the Toes alſo long; the outmoſt, as in other Hawks, being joyned to the middlemoſt by a Membrane below. The

Number of Eggs. Talons black. It lays about five white Eggs, ſpotted near the blunt end with a Circle, as it were a Coronet, of bloud-red ſpecks.

Its Food. It feeds only upon Birds (as our Fowlers affirm,) never touching Beetles or other Inſects.

Its Mettle. For its bigneſs it is a very bold and couragious Bird, and is frequently trained up and made for hawking.

The manner of catching Sparrow-hawks near *Conſtantinople*. *Bellonius* acquaints us with a common and familiar way of taking this kind of Hawks about the Streight of *Propontis*, in theſe words. Not far diſtant (ſaith he) from the outlet of the *Euxine* Sea, at the entrance of the Streight leading to the *Propontis*, having climbed up a very high Hill that is there, by chance we found a Fowler on the top intent upon the catching of *Sparrow-hawks*. Whereas it was now paſt *mid-April*, at which time all ſorts of birds are wont to be very buſie in breeding or building their Neſts, it ſeemed to us wonderful ſtrange and unuſual, to ſee ſuch a multitude of *Kites* and *Hawks* coming flying from the right ſide of the Sea. This Fowler did with ſuch induſtry and dexterity lay wait for them, that not ſo much as one eſcaped him. He took at leaſt twelve Hawks every hour. The manner thus: He himſelf lay hid behind a little buſhet, before which he had levelled a ſquare plat or floor, about two paces long and broad, being two or three paces diſtant from the buſhet. In the borders of this floor he had pitcht down [or thruſt into the ground] ſix ſtakes, at due diſtances, of about the thickneſs of ones thumb [the word is *Pollicis*, and may poſſibly ſignifie an inch-thick] of a mans height, two on each ſide: On the top of each, on that ſide which

which reſpected the floor was a nick cut in, upon which was hung a Net made of fine green thread. In the middle of the floor ſtood a Stake a Cubit high, to the top of which a Cord was bound, which reached as fas as the Fowler, who lay behind the buſhet. To this ſame Line, lying looſe, were many little Birds faſtned, which picked up grains of Corn on the floor. Now, when the Fowler ſaw a Hawk coming afar off from the Sea-coaſt, ſhaking the Line, he made theſe birds to flicker up and down. Which the *Sparrow-hawks* (as they are notably ſharp-ſighted) eſpying at leaſt half a League off, came flying full ſpeed, and ruſh'd upon the Nets with that force, to ſtrike at the birds, that being entangled therein they were taken. The Hawks being allured into the Nets, and caught by this Artifice, the Fowler thruſt their whole wings up to the ſhoulders into certain linnen clothes, ſown up for that purpoſe, *which our Falconers call, mayling or truſſing of Hawks.* Thus mayld or truſt up he left them upon the ground, ſo unable to help themſelves, that they could not ſtir, nor ſtruggle, much leſs diſengage or deliver themſelves. No man could eaſily imagine, whence ſuch a multitude of *Sparrow-hawks* ſhould come. For in two hours time that we were ſpectators of that ſport, we ſaw more than thirty taken by this deceit, whence one may conjecture, that one Fowler in the ſpace of one day might take more than an hundred. Theſe Hawks do not uſually ſtay ſo long in one place as *Falcons*, but are often changing place, whence it is more difficult to take them with a Net. For they will not readily give a Fowler time to ſpread a Net over them; unleſs they be deceived in that manner *Bellonius* hath ſet down.

Chap. XI.

Of Butcher-Birds or Shrikes called in Latine Lanii *or* Colluriones.

The new name of *Lanius* or *Butcher* was by *Geſner* impoſed on this bird, becauſe he thought it agreed to no deſcription of the Ancients; and becauſe it is wont to prey on other Birds. *Bellonius* would have it to be the *Collurio* of *Ariſtotle*. Of the *Europæan* Rapacious birds it is the leaſt; having a ſtreight Bill, only a little hooked at the point; a Tail like that of a *Mag-pie*, *viz.* with the outmoſt feathers ſhorteſt, the reſt in order longer to the middlemoſt; whence the French do, not without reaſon, call it the *Grey Pie*. *Turner* ſuſpects it to be the *Tyrannus* of *Ariſtotle*. In Engliſh it is called a *Shrike*.

§. I.

The greater Butcher-bird or Mattageſs. Lanius cinereus major.

This Bird in the North of *England* is called *Wierangle*, a name, it ſeems, common to us with the *Germans*, who (as *Geſner* witneſſeth) about *Strasburgh*, *Franckfort*, and elſewhere call it *Werkengel*, or *Warkangel*, perchance (ſaith he) as it were *Wurchangel*, which literally rendred ſignifies a *ſuffocating Angel*. In other parts of *Germany* it is called *Neghen-doer*, that is, *Nine-killer*, [*Enneactonos*] becauſe it kills nine birds before it ceaſes, or every day nine. Our Falconers call it the *Mattageſs*, a name borrowed from the *Savoyards*, which is by *Aldrovandus* interpreted a *murthering Pie*. The names.

It is for bigneſs equal to the common *Black-bird*, or the *Song-Thruſh*. It weighs three ounces. Its length from the tip of the Bill to the end of the Tail is more than ten inches: Its Breadth fourteen inches. Its Bill from the tip to the Angles of the mouth is above an inch long, black, hooked at the end, and furniſhed with an Angle or Tooth on each ſide, like that of the *Keſtrel*, *Sparrow-hawk*, and leſſer birds of this kind. [*Aldrovandus* affirmeth, that his greater *Italian Lanius*, which they commonly call *Regeſtola*, wants theſe angular *Appendices* of the Bill, wherein it differs from ours.] The Tongue is ſlit or forked at the end, and rough, [In that deſcribed by *Aldrovandus*, the tip of the Tongue is multifidous or jagged, ending in many ſharp Fibres, as it were hairs, which perchance (ſaith he) is ſo framed by Nature for the ſtriking of Inſects.] In the Palate is a fiſſure or cleft, and about the cleft a hollow Cavity equal to the Tongue. The Noſthrils are round, above which grow ſtiff black hairs or briſtles. From the corner of the Mouth on each ſide through the Eyes to the Its weight and meaſures, Bill. Tongue.

The colour. the hind part of the head is drawn a black ſtroak. The Head, Back, and Rump are aſh-coloured: The Chin and Belly white: The Breaſt and lower part of the Throat varied with dark tranſverſe lines.

The flag-feathers of the Wings. It hath in each Wing eighteen prime feathers; the tips of all which, excepting the four outmoſt, are white: The ſecond and third have alſo their exteriour edges white. Moreover, the firſt or outmoſt feather begins to be white at the bottom: In the reſt in order as far as to the tenth the white part increaſeth, ſo that more than the lower half of the tenth feather is white. From the tenth in the following feathers the white diminiſhes again, yet in their interiour edges it runs up to the top: in the laſt, that is, thoſe next to the body, it fails quite: Elſe both the Beam-feathers and the firſt row of covert-feathers are black.

The Tail. The Tail is made up of twelve feathers, of which the middlemoſt are the longeſt, by meaſure four inches and a quarter; the reſt in order ſhorter to the outmoſt, which are but three inches and an half. The outmoſt feathers are all over white, the two middlemoſt have only their tips white, the reſt of the feather being black; in the intermediate feathers the black part gradually diminiſheth to the outmoſt: Whence (ſaith *Aldrovandus*) when it flies the white part of the Tail ſhews like a Creſcent. [In the greater *Lanius* of *Aldrovandus* the four middle-feathers of the Tail are wholly black, and not two only.]

The Legs and Feet. The Legs and Feet are black: The outmoſt Toe at the bottom joyned to the middlemoſt.

Its Food. The Teſticles are round and little, That we diſſected had in the ſtomach Caterpillars, Beetles, and Graſhoppers.

Its Place. In *Germany* between *Heidelberg* and *Strasburgh*, about a Village called *Linkenom*, we killed this bird: It is alſo common elſewhere in *Germany*. Moreover, we are told, that it is found in the mountainous parts of the North of *England*, as for inſtance in the *Peak* of *Derbyſhire*, where, (as we ſaid) it is called *Wierangel*.

Geſner reports, that the *Lanii* of *Switzerland* do for the moſt part haunt and abide among thorny ſhrubs, ſitting upon the higheſt twigs of dwarf-trees and buſhes, ſetting up their tails as they ſit. In them alſo they build, making their Neſts of Moſs, Wool, and certain downy herbs: But the bottoms thereof of Heath, upon which they lay withinſide the ſoft and tender ſtalks of hay, *Doggs-tooth*, and other like herbs. In this Neſt in ſummer time are to be found ſix Young, ſo unlike to the old ones, that they ſcarce reſemble them in one mark, their Bills, Legs, and Feet only excepted; yea, rather on the contrary the bottoms of all their downy feathers, (which are as yet nothing elſe but certain rudiments of their future Plumage) incline ſomewhat to green.

Although it doth moſt commonly feed upon Inſects, yet doth it often ſet upon and kill not only ſmall birds, as *Finches*, *Wrens*, &c. but (which *Turner* affirms himſelf to have ſeen) even *Thruſhes* themſelves: Whence it is wont by our Falconers to be reclaimed and made for to fly ſmall birds, as we have before noted.

The greateſt Butcher-bird of *Geſner*. *Geſner*, beſides this we have deſcribed, ſets forth another ſort of great *Butcher-bird*, like to this, but twice as big, ſo that it is double the magnitude of a *Black-bird*. It is of the ſame nature, ſhape of body, and colour, except that the Wings are red.

§. II.

The leſſer Butcher-Bird, called in York-ſhire, Fluſher, Lanius tertius *Aldrov.*

Its meaſures, IT is of the bigneſs of a *Lark*, and hath a great head. The Cock weighed two ounces and an half: From the tip of the Bill to the end of the Tail it was ſeven Inches and an half long, to the end of the Claws but ſix inches and an half: from tip to tip of the Wings ſpread twelve inches and an half broad.

Bill, The Bill was an inch long, black, and ſtrong. The tip of the upper Chap hooked; near the hooked part furniſhed with two angular *Appendices*, over-hanging the lower Chap when the mouth is ſhut, it having no dents or cavities to receive theſe *Appendices*: Wherein the Bill of this bird differs from that of a *Hobby* or *Keſtrel*. The Mouth, Tongue, Briſtles, Colour. Mouth within yellow: The cleft of the Palate rough. The Tongue divided into many Filaments: The Noſthrils round: About the Noſthrils and corners of the mouth grew ſtiff, black hairs or briſtles. The middle of the Back, and leſſer rows of feathers covering the upper ſide of the Wing reddiſh or ferrugineous [ruſty] the Head and Rump cinereous. From the corners of the Mouth through the Eyes a black ſtroak

ſtroke is produced beyond the Ears: This black line is terminated and divided from the aſh-colour by another whitiſh one. The lower belly is white: The Throat and Breaſt white, daſhed with red.

There are in each Wing eighteen beam-feathers; the firſt or outmoſt very ſhort and little, the third longeſt of all. The Wings ſhut much ſhorter than the Tail. The greater Wing-feathers dusky, the exteriour Vanes of thoſe next the body being red, the edges of the middlemoſt white. The Tail is three inches long, compoſed of twelve feathers, of which the outmoſt are the ſhorteſt, the reſt on each ſide in order longer to the middlemoſt, which are the longeſt; and almoſt wholly black; of the next to theſe the bottoms or lower parts are white, eſpecially the interiour Web; of the four next on each ſide the lower half is white, as alſo the tips; of the outmoſt the exteriour webs are wholly white. Quils of the Wing. The Tail.

The Feet are black, or of a dark blue colour. The outmoſt Toe joyned at bottom to the middlemoſt. The Feet.

The Teſticles white and round; the Gall large; the Guts eleven inches long; the blind Guts ſhort and little: in the ſtomach diſſected we found Flies and Beetles. The Entrails, and Food.

The Bird here deſcribed had built her Neſt in a Holly-buſh, of graſs, bents, and feathers; in which were ſix oblong, pretty great Eggs, toward the ſharper end almoſt wholly white, toward the blunter encompaſſed with a circle of brown or dark red, as it were a Coronet. The Neſt and Eggs.

At *Florence* I deſcribed a *Lanius*, which the Fowlers there called *Vellia*, very like to this; only the bottoms or lower part of the eight outmoſt beam-feathers of the Wings were white, and that ſo far that ſome part of the white appeared above the covert feathers. Of which note I wonder that neither *Aldrovandus* nor Mr. *Willughby* have made any mention in their deſcriptions of this bird.

§. III.

A Hen Butcher-bird like to the ſecond Lanius *of* Aldrovandus.

IT is ſomewhat leſs than the precedent in all dimenſions. It differs from the ſecond of *Aldrovandus* in that its Bill is not red but black; nor the feet cinereous, but like thoſe of the Cock; and alſo that it wants the white ſpot on the Wing. The Head is of an aſh-colour inclining to red, as in *Thruſhes*. The Back reddiſh, varied with ſemicircular black lines near the tip of each feather. The feathers next incumbent on the Tail are long, of a deeper red, and adorned with ſemicircular lines. The Throat and Breaſt elegantly variegated with the like black ſemicircles, almoſt after the manner of the *Wryneck*. The Belly is white. The prime feathers of the Wings dusky; but thoſe next the body, and the leſſer rows of covert-feathers of the Wings have red edges. The Tail black, with a tincture of red. The outmoſt feathers have all their exteriour webs white; the four next on each ſide have their tips white; the two middlemoſt are of a dark red. The lower Chap of the Bill from the middle almoſt half way is white.

§. IV.

Another ſort of Butcher-Bird, perhaps the Lanius minor primus, *Aldrov.*

THis had a white ſpot on each ſhoulder: The bottoms of the nine outmoſt beam-feathers were white: Above the Bill was a croſs black line: The Head of a pale red or ruſſet: The Back firſt red, then aſh-coloured: Under the Throat were tranſverſe dusky lines, elſe the whole underſide was of a dirty white. I alſo [*J. R.*] at *Florence* in *Italy* ſaw and deſcribed a *Lanius* like to this, differing only in that the Head and Neck were of a deeper red. Mr. *Willughby* alſo deſcribed another killed near the River *Rhene* in *Germany*, whoſe Head was of a lovely red: A line or white ſpace of the figure of a *Parabola* encompaſſed the Tail, the interiour ſpace or *Area* therein contained being black. The eleven exteriour Quils were white from the bottom almoſt to the middle. The Feet and Claws black.

In all the birds of this kind that I have ſeen and deſcribed the bottom of the nine outmoſt beam-feathers of the Wings were white.

The birds of this kind differ very much in colour, ſo that I am in ſome doubt, whether the above deſcribed differ in Species, or in Age and Sex only. I ſuſpect they differ ſpecifically.

The Species of lesser Butcher-birds.

The lesser *Butcher-birds* therefore may be divided into those that have a black line in both cheeks passing through the Eye, and those that want it. Those which have this line may be subdivided into those which have a white mark upon the shoulders and those that have it not. The first sort may be called, the *Lesser Butcher-bird variegated with black and white semicircular lines:* The second, *The lesser red Butcher-bird:* The third, *the lesser ash-coloured Butcher-bird.*

Chap. XII.

Of the Bird of Paradise, or Manucodiata, *in general.*

That Birds of Paradise want feet is not only a popular persuasion, but a thing not long since believed by learned men and great Naturalists, and among the rest by *Aldrovandus* himself, deceived by the birds dried or their cases, brought over into *Europe* out of the *East Indies*, dismembred, and bereaved of their Feet. Yea, *Aldrovandus* and others do not stick to charge *Antonius Pigafeta*, (who gave the first notice of this Bird to the *Europæans*) with falshood and lying, because he delivered the contrary. This errour once admitted, the other fictions of idle brains, which seemed thence to follow, did without difficulty obtain belief; *viz.* that they lived upon the cœlestial dew; that they flew perpetually without any intermission, and took no rest but on high in the Air, their Wings being spread; that they were never taken alive, but only when they fell down dead upon the ground: That there is in the back of the Male a certain cavity, in which the Female, whose belly is also hollow, lays her Eggs, and so by the help of both cavities they are sitten upon and hatched. All which things are now sufficiently refuted, and proved to be false and fabulous, both by eye-witnesses, and by the birds themselves brought over entire. I my self (saith * *Joannes de Laet*) have two *Birds* of *Paradise* of different kinds, and have seen many others, all which had feet, and those truly for the bulk of their bodies sufficiently great, and very strong Legs. The same is confirmed by * *Marggravius*, *Clusius* in his Exotics, *Wormius* in his *Museum*, page 295. and especially *Bontius* in the fifth Book and twelfth Chapter of his *natural and medic History* of the *East-Indies*, where we have to this purpose; *It is so far from being true that these birds of Paradise are nourished by the Air, or want Feet, that with their crooked and very sharp Claws they catch small birds, as* Green Linnets, Chaffinches, *and the like, and presently tear and devour them like other birds of prey: No less untrue is it, that they are not found but only dead, whereas they sit upon trees, and are shot with Arrows by the* Tarnacenses; *whence also, and from their swift* * *reciprocal flying, they are by the Indians called* Tarnacensian Swallows. We truly, before we had read these things in *Bontius*, had subjoyned these birds to the *Rapacious* kind, because they did seem to us in their Bill and crooked Claws very nearly to resemble them, and consequently in all likelihood to prey upon little birds. Hence also it appears how rashly some have believed, that they took their rest hanging by those two * *cirri*, which run out, as it were two long strings, beyond the rest of the feathers, twined about the boughs of trees: For those *Cirri* are nothing else but the naked shafts of feathers, having neither the structure nor use of Muscles. It were to be wished, that those who travel to those parts of the *East Indies*, where these Birds are found, would diligently enquire of the Inhabitants, where and how they build: And what those long feathers serve for, which springing in great numbers from both sides of the breast do both run out in length beyond the Tail, and also are spread out far in breadth; and especially what may be the use of these two long naked shafts of feathers before mentioned, which (to say the truth) is to us as yet unknown.

* In his notes upon *Marggr.* lib. 5. cap. ult.

* To and fro, or backward and forward.

* Shafts of feathers.

These most beautiful birds (as *Aldrovandus* reports) are called by the inhabitants of the *Moluccæ* Islands *Manucodiatæ*, that is, *Gods birds*, and had in great esteem and veneration. They are called *Birds of Paradise*, both for the excellent shape and beauty of their bodies, and also because where they are bred, whence they come, and whither they betake themselves is altogether unknown, sith they are found only dead upon the earth, so that the Vulgar imagine them to drop out of Heaven or Paradise. But this mistake we have before out of *Bontius* rectified.

Chap.

Chap. XIII.

Of the several sorts of Birds of Paradise.

§. I.

* Aldrovandus *his first Bird of Paradise.*

FOr bigness and shape of body, beheld singly, it comes near to a *Swallow*. The feathers investing it are of several colours, very beautiful and lovely to behold. The Head like that of a *Swallow*, and great for the smalness of the body; the feathers covering its upper part from the first Vertebre of the Neck to the beginning of the Bill were short, thick, hard, close-set, of a bright, glistering, yellow colour, shining like burnished Gold, or the Sun-beams: The rest which covered the Chin were of an admirable bluish green, such as we see in the heads of *Mallards*, when exposed to the Sunshine. The Bill was longer than that of a *Swallow*: The Wing-feathers for shape like those of *Herons*, only slenderer and longer, of a shining dusky colour between black and red: which together with the Tail being spread round represent the likeness of a Wheel: For they are absolutely immovable, sticking in the skin like so many darts. Besides which there are also other small feathers, and those verily not a few, which spring up just by the originals of the greater feathers that make up the Wings, and cover the lower parts of them. These are half red or Scarlet-coloured, half of a shining, Saffron, or Gold colour; and by reason of that remarkable and singular disparity of colours contribute much to the beauty and elegancy of this bird. All the rest of the body was covered with * fulvous feathers inclining to red [*ruffum*,] yet so, that still one might observe some difference between them. For those on the Breast and Belly, which stood thicker, and were likewise broader (being of two or three inches breadth) were of a fulvous or rather liver colour, and that very bright and resplendent. Those on the Back stood thinner, and were fewer, gaping moreover with large divisions, after the manner exactly of those growing on the backs of Herons. [I suppose he means the several threads or filaments which compose the web of the feather stood thinner or at greater distances, as in those of a *Peacocks* Tail.] Neither do they attain that eminent breadth, or match them in that excellent liver-colour; but are rather of a purple, resembling flesh or somewhat more obscure. Those two filaments which spring out of the back are in a manner black.

Its bigness, Colour, Head. Its Bill, Wings. * Of the colour of gold. Colour of the rest of the body.

§. II.

* Aldrovandus *his second Bird of Paradise.*

THis differed from the rest, especially in that it had in its Rump two very long feathers, exceeding the rest about two palms length: The Head was almost white, besprinkled with yellow and golden spots: The eyes likewise yellow, the hairs of the Eye-lids red: The Bill of a middle colour between yellow and green, two inches long; the upper part a little crooked: The Tongue red, long, sharp, not unlike that of *Woodpeckers*, very fit to strike Insects. The Breast was somewhat red: The Belly, Back and Wings were white: Yet were their upper sides all over, and their ends ferrugineous. The Back at first seemed to incline somewhat to yellow, but about the Rump it changed to a red or ferrugineous. In the length of the Wings, which equalled five Palms, it exceeded the first species. The Tail feathers at their insertion into the back were white, else ferrugineous, longer than in the first Species.

This Bird wanted those two threads, which (as I said before) grow out of the backs of all this kind. Wherefore it is to be thought that either by reason of the length of the journey, or continuance of time, they fell away and were lost; not that it is therefore to be called a Female, as the Vulgar have been hitherto falsly perswaded. The use of the two forementioned long feathers may perchance be for swifter flight.

Colour of the Head, Bill, Tongue, Breast, Wings, Back. The Tail.

§. III.

* Aldrovandus *his third Bird of Paradiſe.*

* The great Bird of Paradiſe.

THis for the length of its body we thought good to call * *Hippomanucodiata*: As being from the point of the Bill to the end of the Tail and Wings twenty ſeven inches long, and two Palms broad when the Wings are cloſed. The Bill was well hooked, eſpecially the upper part; three inches long; the lower part a little ſhorter. The whole bird was white, except the Neck and Belly, which were of a Cheſnut-colour. The upper part of the Head was ferrugineous; to which ſucceeded a yellow, and to the yellow a green colour. Near the Back the feathers were very prominent, *viz.* the length of two or three inches, This Bird had only one ſtring, and that rough and very flexible: Wherefore we think that the other was by ſome accident loſt.

§. IV.

* Aldrovandus *his fourth or creſted Bird of Paradiſe.*

FRom the beginning of the Bill to the end of the Wings it was by meaſure full eighteen inches. The Bill for the ſmalneſs of the body was very long, black, and ſomewhat hooked. The feathers of the Head, Neck, and Wings were black, yet at the joyning of the Bill yellow. It had a creſt or cop near the Neck almoſt three Inches high, rigid, of a yellow colour, and which ſeemed to conſiſt rather of briſtles than feathers: And in that chiefly did it differ from the following bird.

§. V.

* Aldrovandus *his fifth or common Bird of Paradiſe.*

THis *Geſner* alſo hath figured, but not deſcribed, only he ſaith, it is very like that which was formerly graven, and publiſhed by it ſelf, at *Nurenbergh* in *Germany*: To the *Icon* whereof he ſaith theſe words were added. The Bird of Paradiſe or Indian * *Apos* is of the bigneſs of a *Song-Thruſh*, wonderful light, and very long-winged, the feathers being rare, tender, and pervious to the light; having beſides two long, ſlender, black, horny feathers, if they may be called feathers and not rather briſtles, for they are bare of filaments. It hath no feet; flies perpetually, nor doth it ever reſt but hanging in ſome tree, by thoſe long ſtrings or briſtles twined about a bough. No Ship ſails ſo ſwiftly, nor ſo far from the Continent, which it doth not fly round about. This Cut is very like to our laſt deſcribed: But they differ much in the bigneſs of the Bill and Head. *Geſners* figure ſhews the Bill to be little, and the lower Chap crooked; whereas on the contrary (as I ſaid) in ours the Bill was very long, and the upper Chap crooked. Beſides, this hath no Creſt, which is a manifeſt argument of diverſity.

* Footleſs.

§. VI.

* *The King of Birds of Paradiſe*, Marggrav.

IT ſhews to be as big as a *Pigeon*, but was indeed not greater than a *Swallow*. It had a ſmall Head, little Eyes, a ſtreight, indifferently thick and ſharp Bill, an Inch and half long. The Neck was an inch long: The length of the Body from the Head to the riſe of the Tail ſcarce three inches and an half. The Wings were above ſeven inches long: The Tail broad, and ſix inches long. It had two Legs, the lower part of each two inches long: Four Toes in the Feet, three ſtanding forwards, and one backward, after the uſual manner; the middle Foretoe was a little longer than the reſt: The back-toe was alſo of a good length; all armed with ſtrong, crooked, Hawk-like Claws. Both Legs and Feet are thick and ſtrong, made for rapine and preying. The Wings and Tail have broad and ſtrong feathers, an inch wide. The whole back, the lower Belly, the Wings and Tail are of an elegant brown colour [*Brunni.*] Above next the Bill it hath feathers reſembling Velvet, mingled of green and dusky:

Beneath

Beneath next the Bill it hath like feathers of a black colour. The Neck above is of a yellow or gold colour; beneath of a green, with a gold-colour as it were ſhining through it. The Breaſt is of a deep brown. Under the Wings, in the ſides between the Wings and the Legs grow many feathers, a foot long more or leſs, of a curious ſtructure, which run forth a great way upon the Tail: Towards their riſe they are of a deep yellow or gold colour, elſe of a whitiſh yellow, ſhadowed or daſhed with brown. Among theſe feathers are extended two as it were threads or ſtrings, each more than two feet long, near their riſe of a yellow or gold colour, crooked towards their ends, and of a dark brown. Their Legs are dusky, their Talons being whiter. The Bill is of a colour mixt of green and blue, yet whitiſh toward the point.

§ VII.

* Marggravius *his other Bird of Paradiſe.*

IN bigneſs it exceeded a *Swallow*. It hath a ſmall Head, a little compreſſed or flat above, two thirds of an inch long, in thickneſs or compaſs two inches: very little Eyes, about the bigneſs of a grain of *Millet* or *Muſtard* Seed. The Bill ſtrong, above an inch long, ſtreight, (yet upwards towards its Baſe ſomewhat riſing) ſharp, of a colour mingled of blue and green, with an oblong white ſpot in the upper Chap toward the point: wide, open Noſthrils. The Neck a little more than two thirds of an inch long, ſtreight, and of equal thickneſs with the head. The body from the end of the Neck to the beginning of the Tail was ſcarce four inches long, the thickneſs almoſt three; but it was covered with many feathers, which I do not here conſider. The length of the Wings was five inches. Above on the head, at the riſe of the Bill, it was adorned with very black, ſmall, downy feathers, exactly reſembling Velvet; and in like manner near the riſe of the lower Bill, the black here being broader than above. In the whole throat or lower ſide of the Neck, and as far as the Cheeks and alſo to the Eyes, it was covered with ſilken feathers, a little harder to the touch than thoſe black ones, of a moſt elegant golden green, ſuch as is wont to be ſeen in the necks of *Peacocks* and *Mallards*. The whole upper part of the Head as far as that ſilken clothing, was alſo covered with ſilken feathers, but hard to the touch, of a dark yellow colour. The whole Neck encompaſſed with ſhort feathers reſembling Pluſh, of a ſhining yellow colour like Gold. The back was all covered with feathers of the like ſhining golden yellow, to the touch reſembling hairs, lying many one upon another, which below were of a pale brown colour. The Wing-feathers are all one longer than another. The Tail conſiſts of a few the like brown feathers, extended a little beyond the ends of the Wings, and is above three inches and an half long. At the very riſe of the Wings, and without the Wings in each ſide grow many very elegant feathers, ſupported by ſmall white ones: Some of theſe are ſix inches long, ſome a foot; but the middlemoſt and longeſt are a foot and half long, and white. All theſe feathers are moſt elegant, of a fine, thin, rare, or ſubtile texture. The number of feathers ſpringing out of both ſides amounts to about fifty in each; among which there are forty, a foot and half long apiece. Cluſius *and others, who take theſe long feathers to belong to the Wings, are miſtaken; for they are not the Wing-feathers, but, as* Marggravius *truly hath delivered, ſpring out of each ſide under the Wings.*

Theſe two deſcriptions ſeem to be either of one and the ſame ſort of bird, or of two very like; and agree in moſt things with the firſt Species of Aldrovandus.

§. VIII.

* *Of Birds of Paradiſe out of* Cluſius.

I See that he [*Aldrovandus* he means] and all the reſt who have treated of this bird, agree in this, that they judge it to want feet, becauſe they had ſeen none but ſuch as were bereaved of their feet. Hereupon they did not ſtick to charge *Antonius Pigafeta* (who accompanying *Magellane* in the Ship *Victoria*, firſt ſailed round the World) with falſhood and lying, becauſe after his return from that long Voyage, giving the firſt notice of this Bird to the *Europæans* in the Diary of his travel, he attributes to it ſlender Legs a * Palm long. For my part, though hitherto, I confeſs, I have been in the ſame erroneous opinion with them, in thinking theſe birds to be footleſs

* An hand-breadth.

footleſs (contrary to the ſentence and judgment of *Ariſtotle*, who affirms that no bird wants feet) becauſe thoſe which I hapned to ſee, both in my *Spaniſh* Voyage, ſtopping two months at *Lisbon*, and alſo in the *Low Countries*, in the Cabinets of ſundry perſons delighted in ſuch exotic things, were all without feet, and exenterated; yet at that time, to ſay the truth, I was not at all curious in obſerving, whether there were any difference between them. But the laſt Voyages of the *Hollanders* into *India* have made me without difficulty to change my opinion; it being certain that there have been ſome brought over entire, and retaining ſtill their legs and feet: And by thoſe who ſaw them I underſtood, that their Legs were very like thoſe of a *Magpie*, but weaker, and not ſo thick, differing alſo in colour, as not being black, but tending to a Cheſnut. Notwithſtanding I had a great deſire my ſelf to ſee them, and if I could have got but one, preſently to have taken a draught thereof, that I might expoſe it to the view of the Reader, and confirm the truth and faithfulneſs of *Pigafeta*. But they having been for their rarity preſently bought up, and carried away to *Francfurt* on the *Main*, and one of them thence to the Emperour *Rudolphus* the ſecond of that name (his Majeſty being, as I hear, greatly delighted in theſe kind of ſtrange forein things, and in the knowledge of all the wonders of nature) I was fruſtrated of my hope. But if it happens that there be any entire ones brought over, and that I get ſeaſonable notice of it, I will do my endeavour to procure one, at leaſt to borrow it, that I may ſet forth its figure, to confute and extirpate the commonly received opinion or conceit, that theſe birds want feet. Howbeit the Mariners that brought theſe Birds, though they went not to thoſe Iſlands where the birds themſelves breed and live, yet were informed (as I was aſſured) by thoſe of whom they bought them, that they were all furniſhed with Feet, and did both walk and fly like other Birds: But that the Inhabitants ſo ſoon as they take them, do exenterate them, and cut off and caſt away their Legs, and then expoſe them to the Sun, that they may dry the more readily, and ſo dried, either keep them to ſell, or faſten them to their Helmets inſtead of Plumes of feathers. They added moreover, that thoſe birds lived in Woods, and were wont to fly thirty or forty together in flocks, accompanied with their King or Captain, who always flies high above the reſt; and (which ſeems to be fabulous) if they be thirſty, uſe to ſend out one of their company firſt to the water, to make trial of it, which if it receives no harm from drinking it, then the whole flock fly thither and drink: But if it returns ſick or indiſpoſed, the reſt avoid that water, and fly away to ſeek out ſome other. They further added, that the Illanders were wont to taint and infect this water, for to catch theſe Birds, after this manner. When they eſpy a flock of Birds, they mark diligently whither they betake themſelves, and as ſoon as they ſee the bird that was ſent out, after it hath drank flown back again, they preſently caſt poyſon into that water, which the whole flock coming to drink of, is infected, and becomes their prey. Beſides, that theſe Birds were wont ſometimes to be ſhot with Arrows: And if their *King* happens to be killed and fall down, the reſt that are in that flock fall together with him, and yield themſelves to be taken, as refuſing to live after they have loſt their *King*.

Furthermore, they made two kinds of thoſe Birds: The one of the *Greater*, which were more beautiful, and the other of the *Leſſer*, which were leſs beautiful: Affirming that both kinds have their peculiar *King*, and different in colour. That the birds of the *greater* kind (whoſe *King* is of an elegant and beautiful colour) were found only in the Iſle *Aru* or *Arou* (for ſo that Vowel *u* is to be pronounced:) But that the Iſles called *Papuas*, nigh to the Iſland *Gilolo*, did produce the birds of the *leſſer* kind; and that their *King* was leſs handſom, covered with black feathers, for bigneſs equal to a *Starling*, and having ſome feathers like horſe-hairs. Perchance this black *King* may be the fourth *Species* ſet forth by *Aldrovandus*. Thoſe that ſold theſe Birds, being asked by the Mariners how they were called by the Inhabitants, anſwered *Boëres*, that is, Birds: For ſo they called all Birds, neither did they know how to diſtinguiſh them by peculiar names.

Now having ſeen a very elegant Bird of the greater ſort, and bigger alſo than the reſt of this kind, in the houſe of the famous *Peter Paroias*, Doctor of Phyſick, and primary Profeſſor in the Univerſity of *Leyden*, I took care to get the figure thereof cut, that I might ſet it forth, ſubjoyning a ſhort Hiſtory, as faithfully taken as I could; which ſhould by right have taken up the firſt place in the fifth Book of *Exotics*: But ſeeing the ſix firſt Books are already printed off, I thought fit to inſert it, with ſome other things I afterward got, into this *Auctarium*.

§. IX.

§. IX.

A Bird of Paradiſe of the greater ſort. Cluſ.

THe bulk of the body of this bird came near for bigneſs to that of a *Swallow*. From the top of the Head to the Rump it ſcarce exceeded five inches length. The Crown from the Bill to the Eyes and Neck was covered with very thick-ſet, ſhort, little feathers, reſembling filaments or thrums of Silk; their upper parts or ends being of a yellow colour, the lower, where they are inſerted into the skin, duſky. The under-part of the Head, next to the lower Chap of the Bill, was very thick-ſet with thrums rather than feathers, being very ſhort, and like to Velvet, of a deep black, from the Eyes as far as the Throat. The Throat as low down as the Breaſt was adorned with the like feathers or rather ſilken thrums, and thoſe of a deep green, ſo beautiful and ſhining, that there cannot more elegant ones be ſeen in the Neck of the *wild Drake* or *Mallard*. The feathers covering the Breaſt were alſo exceeding fine and ſmall, but longer, and very ſoft, of a black colour inclining to red, ſo that they ſeemed to be nothing but ends of Silk. The Bill was but ſmall and ſharp-pointed, an inch and half long, black in the part next the Head, the top being ſomewhat whitiſh. In the Head alſo near the Bill appeared very ſmall footſteps of Eyes. The Back, Belly, and Tail-feathers were of a ferrugineous or dusky red colour. The Tail it ſelf conſiſted of ten pretty broad feathers, and was ſix inches and an half long; above which were two long and round feathers, ſomewhat like to Bow-ſtring, or Shoo-makers threads, but ſtiff, and dusky, of two feet and three or four inches length, proceeding from the ſame original [or root or ground, *viz.* the Rump] with the feathers of the Tail, *viz.* being * joyntly inſerted into the Rump. Theſe were pretty thick at their riſe, about their Quills or hollow part, from which they were ſet with frequent [thick-ſtanding] hairy or downy thrums [*ſtamina*] ſuch as other feathers are compounded of; for the ſpace of four inches or a little more on the one ſide, and on the other for their third parts: Thence they grew ſlenderer by degrees to their very ends; and though they were deſtitute of thoſe hairs, yet were they rough, as if they had been cut off. The feathers in the Wings were of various length: For ſome (to wit, the loweſt which ſtood very thick) exceeded not the length of ſix inches, yea, ſome were ſhorter than ſo: Others were eight or nine inches long; others twelve; but the longeſt a foot and half: There is alſo in them great variety of colours; for ſome are of a ſhining golden colour, ſome, eſpecially the narrower in the ſides of the Wings, were of a dusky red, as it were a black ſanguine, but ſhining: But thoſe that covered the reſt were of a pale aſh-colour, and their ſides thinner-ſet with villoſe or downy threads: In ſhort, they were all very beautiful, which if I might I would willingly have got cut and ſet forth in a Table, but becauſe they grew ſo thick, it could not conveniently be done without marring the ſhape of the whole Bird.

* Cloſe together.

Another of the ſame kind I afterwards ſaw in the hands of that noble and learned Perſon *Joſeph Scaliger*, ſomewhat leſſer in bulk of body, as being but four inches and an half long from Head to Rump, but yet the feathers of the Tail were of the ſame length with thoſe of that next above deſcribed; yet thoſe round and long feathers like to Nerves, joyntly ſpringing out of the Rump, did not exceed the length of one foot and nine Inches, elſe about their Quils ſet with the like hairs and downy thrums, on the one ſide to the length of three inches from the Quill, on the other to almoſt five; and thence they grew ſmaller to the very ends, and were ſomething rough, eſpecially about the ends, but not ſo as thoſe of the precedent. The feathers in the Wings were likewiſe of a different length, as in the former: Neither was the bird very unlike to that, nor the variety of colours diverſe from it; ſo that it ſeemed to differ only in age. The Bill was an inch and half long, in part dusky, the reſt being white.

Beſides I ſaw at his houſe another, ſomewhat leſſer in bulk of body, and not ſo flat, having a very little Head, the Bill being of almoſt equal bigneſs with the precedents, but narrower, and of a bluiſh dusky colour, having two holes for reſpiration in the upper part next the Head, like the precedent. The Crown of the head was cloathed with very ſhort feathers, or rather hairs, like thrums of ſilk, but not of ſo elegant a colour as in the precedent, but of a kind of ſooty yellow. Beſides, the border of feathers compaſſing the Bill on the upper ſide was not of that breadth as

in

in those, yet in like manner of a black colour: The Plumage also wherewith the Throat was covered was of a green shining colour as in the precedent, but not exceeding the breadth of ones little finger. The Back from the Neck to the Rump was indeed clothed with the like fine slender feathers; but of a different colour, *viz.* a yellowish ash-colour: But the Breast-feathers were of like colour with those of the precedent: The Plumage also of that part next the Rump agreed with theirs. Of what colour the Tail-feathers were I cannot tell, for that it wanted a Rump: For which cause I know not whether it had or wanted those long, round Nerves, with which as many Birds of this sort as I have yet seen were furnished. The Wing-feathers were of different length as in the former: Nor were they much unlike to them in colour; but those that were the longest had their sides thinner-set with downy filaments, and were of a much whiter colour than the feathers of the above described, being a foot and half long. Now whether that colour of the feathers covering the Back differing from the foregoing, makes or signifies diversity of Sex, as some think, I cannot say; but *John de Weely* told me, that this was of the second kind, *viz.* of those that are bred in the Islands *Papuæ*, and that such do indeed want those Nerves, but not the Tail, and for that cause *they cannot make the difference of Sex, as the Vulgar think.

* I suppose he means those two long Nerves or naked shafts of feathers.

A certain Citizen of *Leyden* had a bird altogether like to this last of *Scaliger*, wanting the Rump and Tail, and also those two long Nerves; which note whether it did distinguish all Birds of that kind from others, was to me unknown (because I had only observed these two, that had this note, as far as I remember: Or if I did before happen to see the like, they slipt out of my memory, because at that time I was not so diligent and curious in taking exact notice of the forms of these and the like birds) but (as I said a little before) *John de Weely* satisfied me and removed all doubt as to that point.

Further when I had proceeded thus far in treating of this Bird, the same *John de Weely* a Citizen and Merchant of *Amsterdam*, a very curteous and obliging person, who had sold the like Bird entire, with its Feet still remaining to it, to the Emperour, informed me this *June*, *Anno* 1605. (for I had enquired of him the *May* foregoing) that that Bird of Paradise was of the greater kind, which have those two Nerves growing out of their Rump, and that they have a flatter body, and not so round as those that are brought out of the *Papuæ* Islands: That its Feet were like a Hawks or a Pullets, very foul and unhandsom, clapped close to the body of the bird, so that the Toes only appeared: And that he was of opinion, that all Birds of Paradise had the like feet; but that the Inhabitants for their uglineſs and deformity did together with their Legs cut them off and cast them away. The same thing about the end of *June* he confirmed to me being present by word of mouth.

§. X.

* *The supposed King of the greater Birds of Paradise.*

THat little Bird which I understood to be called the *King* of the greater sort of *Birds of Paradise*, was a very rare one. For though (as I said before) I had often seen *Birds of Paradise* both at *Lisbon* and other places, and the *Holland* Pilots and Ship-masters, who are now wont to sail yearly into the *East Indies*, coming back from their Voyages, do almost always bring home some of these Birds, yet was it never my hap to see a *King*, till the year 1603. *viz.* at *Amsterdam*, in the hands of a certain Merchant, who was wont to buy up such like exotic things among the Mariners returned home, that he might make a great profit by selling them again to others. But in the beginning of the following year *Emmanuel Swerts*, a very honest man, and Citizen of the same City, gave me notice that he had the like: Whereupon I prevailed with him to lend me the Bird for a few days, that I might describe it, and get its figure cut in a table. And seeing I have mentioned it a little before, and no man hitherto (as far as I know) hath set forth the like, I thought my self obliged in this place to propose its description, annexing its figure.

This Bird was less than other *Birds* of *Paradise*, and of different feathers: For from the Head to the Tail it scarce exceeded two inches length. Its head was very small, which together with its Bill was but an Inch and half long, of which length also the Tail was. But the Wings were much larger than the whole body of the bird, as being four Inches and an half long, and reaching two inches beyond the end of the Tail.

Tail. The colour of the Bill was white, the upper parts being an inch long, was covered half way with elegant, ſhort feathers or hairs, of a red colour, like ſilken thrums, as alſo the whole forepart of the head: The lower part of the Bill was likewiſe an inch long, yet a thought ſhorter than the upper. The middle part of the Head about the Eyes on each ſide had little black ſpots impreſſed. The Neck and Breaſt were covered with fine ſlender feathers of a deep red or ſanguine colour, ſo that they ſeemed to be no more than certain ſilken thrums or filaments. All the covert-feathers of the Back, Wings, and Tail were almoſt of one and the ſame colour. Each Wing conſiſted of thirteen prime feathers, which were on the upper ſide of a dusky red, on the under ſide of a dusky yellow. The Tail contained ſeven or eight dusky or brown feathers. The lower or under ſide of the body under the Breaſt was adorned with a kind of ring of the breadth almoſt of ones little finger, conſiſting of black feathers as it were ſilken thrums. The feathers on the Belly were white, but thoſe next the Wings black; and of thoſe there were four or five in each ſide a little longer than the reſt; *viz.* equal to two inches, and which ended in a broad top of a curious ſhining green, not unlike that of a *Mallards* Neck. Out of the Rump among the feathers of the Tail proceeded two ſtrings as it were horſe-hairs, ſlender, but ſtiff, ſeven or eight inches long, altogether black, only their ends for an inches length were reflected round, and on one ſide ſet with very fine hairs or downy threads, which were on the upper ſide of a deep ſhining green, beautiful to behold, almoſt like the feathers on a wild *Drake* or *Mallards* Neck, adding a great grace to the whole body of the Bird; but the underſide of theſe feathers was of a dusky colour. I underſtood alſo that there were ſome Birds, which had thoſe briſtly ſtrings, croſſing one another towards their ends.

Chap. XIV.

The Cuckow. Cuculus.

OUr *Bologneſe* Fowlers (ſaith *Aldrovandus*) do unanimouſly affirm, that there are found a greater and a leſſer ſort of *Cuckows*; and beſides, that the greater are of two kinds, which are diſtinguiſhed one from the other by the only difference of colour: But that the leſſer differ from the greater in nothing elſe but magnitude. We ſhall give figures of both the greater; the leſſer we have not yet ſeen. So far *Aldrovandus*.

That wich is common with us in *England* differs from the firſt of *Aldrovandus*, in that its Bill is liker a *Thruſhes* or *Blackbirds* than a *Ringdoves*. Its length from the tip of the Bill to the end of the Tail is twelve inches. The upper Chap of the Bill ſomewhat hooked, and longer than the lower, for the moſt part of a dark or blackiſh colour; the nether of a pale or whitiſh yellow. The inſide of the Mouth and the Tongue are of a deep yellow or Saffron colour: The Tongue not divided, the tip of it hard and pellucid. The *Irides* of the Eyes not yellow, as in *Aldrovandus* his ſecond ſort, but of a Hazel colour: The Noſthrils round, wide, extant above the ſurface of the Bill; wherein it differs from all other birds I have yet ſeen. The lower eye-lid is the greater; the edges of the Eye-lids yellow. Its length, Bill, Tongue, Eyes, Noſthrils.

The Throat, Breaſt, and Belly are white, with tranſverſe dark lines, which are entire and not interrupted; wherein it agrees with *Aldrovandus* his ſecond *Cuckow*. The black lines are thicker upon the throat, and have leſs white between them. The feathers of the Head are of a dark brown with white edges, [*Aldrovandus* ſaith, of a cinereous tending to a Cheſnut colour) that we deſcribed had on the Head one or two white ſpots. The feathers on the middle of the Neck and Back, and alſo the long ſcapular feathers are brown with a tincture of red, having their edges whitiſh. The Rump aſh-coloured. Colour of the underſide, Of the upper ſide,

The beam-feathers of the Wings are nineteen in number, the greater whereof are the blacker. All from the ſecond have their exteriour Vanes ſpotted with red: The interiour Vanes of the outmoſt have long, tranſverſe, white ſpots; the tips of all are white. The covert-feathers of the Wings are of the ſame colour with thoſe on the Back, only the outmoſt darker. Of the Wing-feathers.

The Tail in that deſcribed by *Aldrovandus* in the ſecond place (for Mr. *Willughby* omitted that in his Deſcription) was made up of ten feathers, diſtinguiſhed on both The Tail,

sides the shaft with white marks, somewhat resembling the figure of a heart, about an inch distant from each other, in a decent and lovely order, pleasant to behold. But the edges of the inner sides of all but the two middlemost, and the tops of all were adorned with white spots.

The Feet, Toes, and Claws.

The Feet and Claws are yellow. It hath two back-toes; of which the interiour is the least of all the Toes, and next to that the interiour of the fore-toes. The Claws are something hollowed on the inside, especially the greatest: The two fore-toes are connected from the divarication to the first joynt.

Its Food. Its manner of breeding.

In the stomach dissected we found Caterpillars and other Insects. The *Hedge-Sparrow* [*Curruca*] is the *Cuckows* Nurse, but not the *Hedge-Sparrow* only, (if *Curruca* be so rightly rendred) but also *Ring-Doves*, *Larks*, *Finches*. I my self with many others have seen a *Wagtail* feeding a young *Cuckow*. The *Cuckow* her self builds no Nest; but having found the Nest of some little bird, she either devours or destroys the Eggs she there finds, and in the room thereof lays one of her own, and so forsakes it. The silly bird returning, sits on this Egg. hatches it, and with a great deal of care and toil broods, feeds, and cherishes the young *Cuckow* for her own, until it be grown up and able to fly and shift for it self. Which thing seems so strange, monstrous, and absurd, that for my part I cannot sufficiently wonder there should be such an example in nature; nor could I have ever been induced to believe that such a thing had been done by Natures instinct, had I not with my own eyes seen it. For Nature in other things is wont constantly to observe one and the same Law and Order agreeable to the highest reason and prudence: Which in this case is, that the Dams make Nests for themselves, if need be, sit upon their own Eggs, and bring up their Young after they are hatcht.

What becomes of the Cuckow in Winter.

What becomes of the *Cuckow* in the Winter-time, whether hiding her self in hollow Trees, or other holes and Caverns, she lies torpid, and at the return of the Spring revives again; or rather at the approach of Winter, being impatient of cold, shifts place and departs into hot Countrys, is not as yet to me certainly known. *Aldrovandus* writes, that it is by long observation found, that she doth in the Winter enter into the hollows of trees, or the Caverns of Rocks and the earth, and there lie hid all that season. Some (saith he) tell a story of a certain Country-man of *Zurich* in *Switzerland*, who having laid a Log on the fire in Winter, heard a *Cuckow* cry in it. For being of a very tender nature, and impatient of cold (as *Aristotle* witnesseth) no wonder, if to avoid the Winter-cold, it hide it self in holes, especially seeing at that time it moults its feathers. We also have heard of the like stories in *England*, and have known some who have affirmed themselves in the middle of Winter, in a more than usually mild and warm season, to have heard the voice of the *Cuckow*. But seeing it is most certain, that many sorts of Birds do at certain Seasons of the year shift places, and depart into other Countrys, as for example *Quails*, *Woodcocks*, *Fieldfares*, *Storks*, &c. Why may not *Cuckows* also do the same? For my part I never yet met with any credible person that dared affirm, that himself had found or seen a *Cuckow* in Winter-time taken out of a hollow tree, or any other lurking-place.

Since the writing of this, reading *Jo. Faber* his Expositions of the Pictures of some *Mexican* Animals of *Nardi Antonio Recchi*, I find alleged the testimony of a credible person and an eye-witness, one *Theophilus Molitor*, a Friend of *Fabers*, for this lurking of *Cuckows* in hollow trees. *Molitor* affirmed this to have hapned at his Fathers house. His Grandfathers Servants having stocked up in a certain Meadow some old, dry, rotten Willows, and brought them home, and cast the heads of two of them into the Furnace to heat the Stove, heard as they were in the Stove a *Cuckow* singing three times. Wondring at this cry of the *Cuckow* in the Winter-time, out they go, and drawing the heads of the Willows out of the Furnace, in the one of them they observed something move; wherefore taking an Axe they opened the hole, and thrusting in their hands, first they pluckt out nothing but meer feathers: Afterward they got hold of a living Animal, that was the very *Cuckow*, and drew it out. It was indeed brisk and lively, but wholly naked and bare of feathers, and without any Winter-provision of food, which *Cuckow* the Boys kept two whole years in the Stove.

* Aldrovandus *his first sort of Cuckow.*

This differs in many respects from the precedent, as first, in that the transverse lines on the Breast are not continued, but interrupted. Secondly, In that the covert-feathers of the Neck, Back, and Wings are almost all parti-coloured of black and ferrugineous.

ferrugineous. Thirdly, The *Remiges* elsewhere black, in the middle and round the edges white. Fourthly, The Tail variegated with three colours, black, white, and ferrugineous. The black in each feather consists of two lines, concurring in the middle of the feather in an acute angle, and standing at equal distances in a certain *Series* or order to the end of the Tail: The ferrugineous takes up the outsides of the intermediate spaces, and the white the middle.

Lib. I. Part I. Sect. II.

Of Nocturnal Rapacious Birds.

RApacious Nocturnal Birds are of two kinds, *viz. Eared* or *horned*, and such as *want Ears*. To these we shall subjoyn the *Goat-sucker*, which yet we believe not to be Rapacious, but to have it self so to *Owls* as the *Cuckow* to *Hawks*.

Of Rapacious Nocturnal Birds we have in *England* four sorts besides the *Goat-sucker*. 1. *The Horn-Owl*, in Latine *Otus* or *Asio*, so called from certain small feathers sticking out on the sides of the head, in forms of Horns or Ears. 2. The *White-Owl*, called also the *Church-Owl* or *Barn-Owl*; by *Aldrovandus Aluco minor*. 3. The *Brown Owl*, *Screech-Owl*, or *Ivy-Owl*: *Strix Aldrovandi*. 4. The *Grey Owl*: *Strix cinerea*.

Chap. I.

Of Rapacious Nocturnal Birds Horned or Eared.

§. I.

* *The great Horn-Owl or Eagle-Owl.* Bubo.

OF this Bird *Aldrovandus* gives us three figures, and three descriptions, which I suspect to be all of one and the same sort: The first is taken out of *Gesner*, the two last were composed by himself, of his own observation. The first (they are *Gesners* words) was as big or bigger than a Goose; had great Wings, two Feet, and three inches long, when extended in a right line from their beginning to the end of the longest feather, from the top of the uppermost bone of the Wing, to the lowest end was in a right line thirteen inches. The Head both for shape and bigness was like a *Cats*, for which reason the *French* do not improperly call it *Chat huant* [q. *felis gemebunda.*] Above each Ear stuck out black feathers, three inches high. The Eyes were great: The feathers about the Rump thick and very soft, of more than a fingers length, or an handful high, if my memory fail me not. From the point of the Bill to the end of the Feet or of the Tail (for they were both equally extended) it was two foot and seven inches long. The *Irides* of the Eyes were of a deep shining yellow or Saffron-colour. The Bill short, black, and hooked. The feathers being put aside the Ear-holes came into sight, which were great and open. On both sides by the Nosthrils grew hair-like feathers, as it were beards [*barbulæ.*] The colour of the feathers all over the body was various, of whitish, black, and reddish spots. The length of the Leg was thirteen inches: The part above the knee thick and brawny: The Claws black, hooked, and very sharp: The Foot hairy or feathered down to the very Claws, the feathers being of a pale red.

2. The second (saith *Aldrovandus*) for bigness agreed exactly with this, but differed in many other particulars. For though its Feet were indeed hairy down to the Claws, as in that, yet shorter and slenderer, neither so brawny above the knees, nor so thick and strong-shanked. The colour of the whole body was fulvous [or of a rusty ash-colour] especially of the Breast, where it was marked with blackish spots drawn long-ways, promiscuously here and there in no order. The Back and Wings are of a darker brown or ferrugineous dusky colour. But the main difference is that that of *Gesner* hath all the particular feathers of its whole body more variegated with

certain tranſverſe narrow lines like the feathers of ſome kinds of Ducks, Partridges, and Hawks. Beſides, it differs in that the whole body, but eſpecially the Back and Head are marked with certain black ſtrakes, irregularly drawn, and as it were figured; whereas mine (ſaith he) was not ſo painted, but in the great feathers of the Wings and Tail diſtinguiſhed with broad, tranſverſe, blackiſh lines or bars; which lines are ſo formed, eſpecially in the Tail, that each of the broader are terminated above and below by other narrower ones, like borders or fringes, diſpoſed in a triple order, and at certain intervals diſtant from each other, as in Hawks. This had great and very ſharp Talons, not black, as in that, but of a horn-colour. The Tail in both was very ſhort.

3. The third was in all things like the ſecond, ſave that the Legs were not hairy, and both Legs and Feet weak.

Of this kind of Owl we ſaw one in *France* at the Kings Palace of *Bois de Vincennes*: And two in his Majeſties Park of St. *James* near *Weſtminſter*. They were as big as *Eagles*: Their Legs and Feet hairy down to the Claws. They had three fore-toes in each foot; but the outmoſt of them was ſo framed that it could be turned backward, and made ſtand like a hind-toe. So that in that reſpect there is no difference between this and other ſorts of *Owls*, but this may as well be ſaid to have two back toes as they; whatever *Aldrovandus* hath delivered to the contrary. Their colour was much like to that of a *Bittour*, the feathers being marked with long black ſtroaks in the middle, the out-ſides of a light bay. About the Belly ſome of the feathers were beautified with tranſverſe lines. The *Irides* of the Eyes were of a reddiſh yellow or flame colour, [rather of a golden.]

That Owl which *Marggravius* deſcribes under the name of *Jacurutu* of the *Braſilians*, ſeems to be altogether the ſame with this. It is (ſaith he) for bigneſs equal to a *Gooſe*: Hath a round Head like a Cat; a hooked black Bill, the upper Chap being longer: Great, riſing, round Eyes, ſhining like Cryſtal, compaſſed toward the outſide with a Circle of yellow. The Circumference of the Eye ſomething greater than a *Miſnian* * groſs. Near the Ear-holes it hath feathers two inches long, which ſtick up, and end in a ſharp point like Ears. The Tail is broad; the Wings reach not to the end of it. The Legs are feathered down to the Feet, in which are four Toes, three ſtanding forward, and one backward, and in each a crooked black Talon, above an inch long, and very ſharp. The feathers of the whole body are elegantly variegated with yellow, white, and black.

* A piece of money ſo called, of the bigneſs of a two-pence or three-pence.

It is ſaid to build on high and inacceſſible Rocks: It preys not only on ſmall birds, but alſo *Conies* and *Hares* like the *Eagle*. Yea, (ſaith *Aldrovandus*) there is no Animal gathers ſo much prey by night as this *Owl*, eſpecially when ſhe brings up her Young. For ſhe not only provides ſufficient for her ſelf and hers, but is very advantageous to them that find her Neſt. For while ſhe flies out a pourveying for more, they privily ſteal away that ſhe had before laid up, only leaving ſo much as may ſuffice for nouriſhing the Young.

§. II.

The Horn-Owl, Otus ſive Aſio.

Its weight, length, and breadth.

THat we deſcribed was a Female: It weighed ten ounces: Its length from the point of the Bill to the end of the Tail was fourteen Inches and an half: Its breadth, meaſuring from tip to tip of the Wings extended, three foot and four inches.

Its Beak, Tongue, Eyes, Hood of feathers.

The Bill was black, from the point to the Angles of the Mouth one inch and half quarter: The Tongue fleſhy, and a little divided. The *Irides* of the Eyes of a lovely yellow: The covers of the Ears large. The ring of feathers, compaſſing the face like a womans hood, conſiſts of a double row, the exteriour variegated with ſmall white, black, and red lines; the interiour under the Eyes red; where they are contiguous both black. The forehead or ends of the two wreaths at the Bill more cinereous.

Colour of the feathers.

The feathers which cover the lower Belly and Legs are reddiſh; in the Throat and Breaſt the middle parts of the feathers are black, the outer parts partly white, and partly yellow: Thoſe under the Wings are red. At the bottoms of the foremoſt beam-feathers is a great tranſverſe black ſpot: Higher in the very bending, and under the baſtard-wing a broad bed or border of black: The reſt of the covert-feathers of the Wings are parti-coloured, of a dark cinereous and yellow. The Back was of the

ſame

ſame colour with the Wings; the middle of each feather being for the moſt part black. The Horns were above an Inch long, conſiſting of ſix feathers, the middle parts of which were black, the exteriour edges being red, the interiour white, ſprinked with dusky ſpecks. The Horns or Ears.

The Tail was made up of twelve feathers, ſix inches long; the exteriour being ſhorteſt, and the reſt in order longer to the middlemoſt, ſo that when ſpread it was terminated in a circular Circumference; croſſed with ſix or ſeven black bars, but narrower than in other birds of this kind: The intermediate ſpaces above were of an aſh-colour, below of a yellow. The Tail.

The flag-feathers of the Wings, were in each twenty four, of the ſame colour with thoſe of the Tail, but in the outmoſt, eſpecially the third, fourth, and fifth, there is a broad ſtrake or bed of red toward the bottom, and in the greater feathers the black bars are much broader than in the leſs. The prime Wing-feathers.

The Legs and Feet are feathered down to the very Claws, which are black; that of the middle toe on the inſide flatted into an edge. The outmoſt of the fore-toes may be turned backwards, as in other *Owls*. The Feet and Claws.

It had a large Gall. The Guts were twenty inches long, the *Appendices* or blind-guts two inches and a quarter, longer and more tumid than in other carnivorous birds. In the ſtomach we found bones and fur of Mice. The Guts.

About *Bologna*, and elſewhere in *Italy*, it is frequent: Found in *England* alſo, but more rarely. *Francis Jeſſop* Eſq; ſent it to us out of *Yorkshire*. The place.

This Bird is in all things exactly like the great *Eagle-Owl* or *Bubo*, ſave in bigneſs; whence alſo the *French* call it by the ſame name with the only addition of leſs. *Aldrovandus* writes, that it agrees with the *Bubo* in the ſtructure or rather ſituation of its Toes, both theſe having three fore-toes, and one back one, whereas all the reſt of this kind have two fore-toes, and two hind ones: But in thoſe we have obſerved both great and leſs *Horn-Owls* [*Otis & Bubonibus*] the Toes were diſpoſed in like manner as in other *Owls*. For the outmoſt fore-toe may be turned to ſtand backward, and ſo imitate a hind-toe, and perform the ſame office.

Aldrovandus deſcribes two ſorts of *Aſio*, or the leſſer *Horn-Owl*. The deſcription of the former doth in moſt particulars agree to the Bird we have deſcribed: See and compare both deſcriptions. *Bellonius* his *Otus* is without doubt the ſame with ours.

Theſe do for the moſt part frequent and abide in mountainous places, whereas on the contrary, our *Church-Owl* and *brown Owl*, &c. delight in lower and plain Countrys.

§. III.

* *The little Horn-Owl*, Scops Aldrovandi.

THE Bird which the *Italians*, eſpecially about *Bononia* call *Chiuuino* is the leaſt ſave one of all Rapacious Nocturnal Birds, bigger than a *Thruſh*, and ſomewhat leſſer than a *Pigeon*, full nine inches long. It differs from the *Bubo* only in magnitude, and ſomething in colour. Its Head is round like a Ball, covered with ſmall ſoft feathers, all over of a lead-colour. The Bill ſhort, hooked, and black. The Ears or feathers ſtanding up in faſhion of Ears, ſcarce appear in a dead bird, but are more manifeſt in a living, and conſiſt only of one feather apiece. The chief colour of the whole body, as far as appears to ſight, is cinereous, having here and there ſomething of plumbeous mingled with it, curiouſly ſpeckled with many white ſpots, more elegantly than any other Nocturnal Rapacious bird. In the greater feathers of the Wings and Tail it is marked with tranſverſe white ſpots: All the other feathers beſides theſe tranſverſe marks are diſtinguiſhed long-ways with a black line running through their middles. It is alſo beſprinkled all over with a lovely tincture of red, eſpecially about the Neck and the beginning of the Wings. The feathers on the Belly are whiter than elſewhere, the bottom or lower part of them, as alſo of all the reſt, being black: particularly, theſe are red about the middle, elſe white, powdered with very ſmall black ſpecks. The Eyes like moſt other night-birds of a fiery ſhining Saffron colour: The Legs feathered, and of a reddiſh aſh-colour: The Feet ſmall, naked, ſcaly, approaching to a dark lead-colour, divided into two fore, and two back-toes, armed with dusky Claws. This is common in *Italy*.

Of this ſort *Aldrovandus* mentions another found in *Germany*, whiter, and having a longer Tail, and longer Ears or Horns than the *Italian Chiuuino*, in other reſpects like.

CHAP.

Chap. II.

Of Nocturnal Rapacious Birds without Ears or Horns.

§. I.

The common brown or Ivy-Owl, Strix. *Aldrov.*

THe Bird we described was a Cock; It was about the bigness of a *Pigeon*, but rounder-bodied, and seeming bigger than it was. It weighed twelve ounces and an half. Its length from the tip of the beak to the end of the Tail was fourteen inches: Its breadth, or the distance between the extremities of the Wings spread, two feet and nine inches.

The Bill from the point to the angles of the mouth was an inch long or more, of a horn-colour, or rather a light blue. The mouth was wider, but the Bill shorter than in the *Barn-Owl*. The Tongue not very fleshy, nor broad, a little divided at the tip. In the Palate was a cavity equal to the Tongue. It hath huge Eyes, at least twice so big as those of the Barn or white Owl, and protuberant. It had Membranes for Nictation, drawn from above downwards, having black edges. The borders of the Eye-lids were broader than ordinary, and their edges red. The Ear-holes were three times as great as in the white Owl, and covered with Valves. A circle of feathers encompasses the Eyes and Chin, like a womans hood, as in the *Barn-Owl*, but not standing up so high as in that. This circle or hood consists of a double row of feathers, the exteriour more rigid, variegated with white, black, and red; the interiour consisting of soft feathers, of a white mingled with a flame-colour. The middle part of the head without the hood is of a dark brown. The exteriour circle of the hood compasses the ears; the greatest part of the interiour feathers of it, where it passes the ears, grows out of the covers of the Ears. The Eyes in this Bird are nearer to the Ears than in any other Animal I know. Beyond the Nosthrils and below the Eyes grew bristly feathers having black shafts. The back and upper side of the body was particoloured of ferrugineous and dark brown, the black taking up the middle part of each feather, and the ferrugineous the out-sides. If one curiously view and observe each single feather, one shall find them waved with transverse lines, cinereous and brown alternately succeeding each other. The belly and lower side of the body is of the same colour with the back, but more dilute with a mixture of white. The bottoms of all the feathers are black. In this and other Owls the feathers investing the whole body are longer or taller than in most other birds, so that the bird seems to be much bigger than indeed it is. The feet are covered almost down to the Claws with a thick dirty-white Plumage, sprinkled with small dark specks, [rather waved with dark lines] only two or three of the annulary scales bare.

The number of flag-feathers in each Wing was twenty four. The exteriour [*pinnulæ*] webs of the outmost whereof were terminated in slender points like bristles, separate from each other, and standing like the teeth of a fine Comb. The Wing and Tail-feathers were marked with six or seven cross bars of a dirty white, tincted in some with ferrugineous, and in some with brown. The Wings complicated fall very much short of the end of the Tail. The covert feathers of the Wings, chiefly those about the middle, and those long ones springing from the shoulders were spotted with white, especially their interiour Vanes.

The Tail was six inches and an half long, made up of twelve feathers, the middlemost being the longest, the rest in order shorter to the outmost: All ending in sharp points, whereas in those of the Barn-Owl the tops were blunt.

The soal of the foot was callous, of a horny or blackish colour. That of the middle-toe had not the inner edge serrate, as in the *white Owl*. All the toes were separate to the very divarication. The outmost of the fore-toes is made to turn also backward, and supply the room of a back-toe, as in the rest of this kind.

The Guts were thirty inches long, and had many revolutions. The blind Guts were five inches and an half long, toward their ends tumid and full of excrement: The Liver divided into two Lobes. It had a large Gall; great black Testicles. The stomach seemed to be more fleshy than in other carnivorous birds: and above it a granulated *Echinus* or ante-stomach. In the stomach we found the fur of Mice.

The Tongue,
Eyes,
Ears;
Circle of feathers about the face.
Colour of the upper side,
Underside.
The Wing-feathers.
The Tail.
The Feet, Toes, and Claws.
The Guts and Entrails.

It

It differs remarkably from the white Owl in that the extreme feather of the Wing is little, and at leaſt a hand-breadth ſhorter than the third and fourth; the ſecond above an inch ſhorter than the third, and the fourth and fifth the longeſt of all; whereas in that the ſecond and third feathers are the longeſt, and the extreme or *Sarcel* wants not half an inch of them. How it differs from the white Owl.

Aldrovandus writes, that the Country-people about *Bononia* told him, that his *Strix* or *Screech-Owl* uſed to ſuck their Goats: which ours (as far as I have heard) was never complained of for doing.

§. II.

The Grey Owl, Strix cinerea.

ANother Bird of this ſort we deſcribed, which we found firſt at *Vienna* in *Auſtria*, and afterward in *England* alſo. It weighed eleven ounces and an half. The length from the Bill to end of the Tail or Feet (for they were equally extended) was fourteen inches and an half: The breadth between the tips of the Wings ſpread out two foot and eleven inches. The Bill was an inch and quarter long: The Tongue a little divided, not ſo fleſhy as in *Hawks*. In the Palate it had a broad open fiſſure or cleft. The Noſthrils were oblong. The Sear or skin covering the Baſe of the Beak in diurnal Rapacious birds, was wanting in this, as in all other *Owls*. It had huge, round Eyes; the *Irides* being of a dark Hazel colour. Both upper and lower Eyelid terminate in a membrane having black edges. The Ear-holes were great and furniſhed with Valves. Its weight, length, and breadth. Its Bill, Tongue, Noſthrils, Eyes, Ears.

This Bird was for the apparent magnitude very light and full of feathers. A wreath or hood of ſtiffer feathers parti-coloured of white and black, beginning from the Bill above, and reaching beyond the Ears, encompaſſes the Face and Eyes; the ends meeting under the Chin like a womans hood. Within this greater hood another circle of feathers of an aſh-colour, conſiſting of thinner and ſhorter hairs encompaſſes the Eyes. The body is all over variegated with cinereous and brown. The ſhafts of the feathers in the middle of the back are black. The interiour Vanes of the long ſcapular feathers are white almoſt to the ſhafts. The lower belly is white. On the Breaſt are long black ſpots. The hood about the face.

The firſt row of Wing-feathers had croſs bars of black and reddiſh aſh-colour. In the third row of the covert-feathers of the Wings were one or two white ſpots. The Wing-feathers.

The Tail had twelve feathers, ſeven inches and a quarter long, the middlemoſt feathers being longeſt, and the reſt in order to the outmoſt ſomewhat ſhorter. The Tail.

The Feet were feathered almoſt down to the Claws, only two or three annulary ſcales naked. The ſole of the foot callous, and of a yellowiſh colour, as it were granulated with little knobs. The Toes, as in other Night-birds, two ſtanding forward, and two backward. The inner ſide of the Claw of the outer fore-toe is flatted into an edge. The Feet. Toes, Claws.

The length of the Guts was twenty two inches, of the blind Guts three and an half. Guts.

The name *Strix* ſome think is taken from the Verb *ſtringere*, becauſe it ſtrangles people when they are aſleep. *Ovid* will have it ſo called *à ſtridore*, from the ſcreeching noiſe it makes: Reaſon of the name.

Eſt illis Strigibus nomen, ſed nominis hujus
Cauſa, quòd horrenda ſtridere nocte ſolent.

This is like the precedent, and of equal bigneſs, from which yet it is diſtinguiſhed by manifeſt notes, and which argue a ſpecifical difference. The chief of thoſe are: 1. That this is grey, that brown. 2. That this hath long ſpots on the Breaſt, which that wants. 3. That the interiour hood in this is particoloured only of dusky and white. How it differs from the precedent.

§. III.

§. III.

The common Barn-Owl, or White-Owl, or Church-Owl. Aluco minor, *Aldrov.*

Its bigneſs and meaſures.

THE Cock (which we deſcribed) was about the bigneſs of a *Pigeon*; weighed eleven ounces and an half. Its length from the tip of the Bill to the end of the Tail was fourteen inches. The diſtance between the extremities of the Wings ſpread out three foot and one inch and half. The Bill white, hooked at the end, more than an inch and half long: The Tongue a little divided at the tip; the Noſethrils oblong. A circle or wreath of white, ſoft, downy feathers encompaſſed with yellow ones, beginning from the Noſthrils on each ſide, paſſed round the Eyes and under the Chin, ſomewhat reſembling a black hood, ſuch as women uſe to wear: So that the Eyes were ſunk in the middle of theſe feathers, as it were in the bottom of a Pit or Valley. At the interiour angle of each Eye the lower parts of theſe feathers were of a tawny colour. The Ears were covered with a Valve, which ariſes near the Eye, and falls backwards. The interiour circle we mentioned of white, downy feathers paſſed juſt over this Valve, ſo that part of them grew out of it.

The Bill, Tongue, Hood,

Ear-valve.

Colour of the ſeathers of the body.

The Breaſt, Belly, and covert-feathers of the inſide of the Wings were white, marked with a few quadrangular dark ſpots. The Head, Neck, and Back, as far as the prime feathers of the Wings, variouſly and of all Night-birds moſt elegantly coloured. The feathers toward the tips were waved with ſmall whitiſh and blackiſh lines, reſembling a grey colour; but about the ſhaft of each feather there was as it were a bed or row of black and white ſpots, ſituate long-ways, made up in ſome of two white and two black ſpots, in ſome of three of each colour, in ſome of but one. Elſe the whole Plumage was of a dilute tawny or orange colour; which ſame colour was alſo the field or ground in the Wings and Tail.

The Wing-feathers.

The maſter-feathers in each Wing were in number twenty four; whereof the greater have four tranſverſe blackiſh bars. [In theſe bars in the exteriour Vane of the feather there is alſo white mingled with the black, which makes an appearance of a grey ſpot.] The intermediate ſpaces are fulvous, and powdered with ſmall black ſpecks; the tips of theſe feathers incline more to an aſh-colour. The Wings when ſhut up extend full as far or further than the end of the Tail. In the exteriour Vanes of the firſt or outmoſt feather of each Wing the ends of the * *Pinnulæ* are not contiguous one to another, but ſtand at diſtance, like the teeth of a fine Comb.

* Hair-like bodies compounding the web of the feather.

The Tail.

The Tail is made up of twelve feathers, of the ſame colour with the Wings, having four tranſverſe black bars: four inches and half long. The interiour margins of the feathers both of Wings and Tail are white.

The legs, feet, and toes.

The Legs are covered with a thick Down to the Feet, but the Toes are only hairy, the hairs alſo thin-ſet. The Claw of the middle Toe is ſerrate on the inſide as in *Herons*, but not ſo manifeſtly. It hath but one Toe that ſtands backward; but the outmoſt fore-toe may be turned ſo as to ſtand a little backward.

The Guts.

The Guts were eighteen inches long; the blind Guts but two. It had a large Gall: Its Eggs were white.

Aldrovandus his deſcription agrees exactly with ours.

The ſtrange figure of the Eyes.

The Eye in this Bird, and I ſuppoſe in all the reſt of this kind, is of a ſtrange and ſingular ſtructure. That part which appears outwardly, though great, is only the *Iris*. For the whole bulb or ball of the Eye when taken out ſomewhat reſembles a hat or Helmet, the *Iris* being the Crown, the part not appearing and extending it ſelf good way further, the brims. The interiour edges of the Eye-lids round about are yellow. The Eyes are altogether fixt and immovable.

The Bird is deſcribed by *Marggravius* under the title of *Tuidara* of *Braſil*; ſo that it ſeems it is common with us to the *New World*.

§. IV.

* Aldrovandus *his former* Aluco.

THIS is bigger than the precedent, but (ſaith my Author) leſſer than the *Otus* or *Horn-Owl*. This is peculiar to them all, that they cover the Eye only by drawing the upper lid over it downward. It hath a circle, as it were a Crown, made up of feathers, which encompaſs the whole face, paſſing above the Eyes like tall

Eye-

Eye-brows, descending on both sides by the Temples, and meeting under the Chin, somewhat like a womans black hood. The Eyes are great, wholly black, without any diversity of colour, sunk, as it were, in a deep cavity, made by this circle of erected feathers. The prone side, *viz.* the Breast and Belly spotted with indifferently great black spots. The Bill white, very much hooked, as also the Claws. The Legs covered with white feathers, but the Feet only with hairs. The Back is of a Lead-colour variegated with whitish specks. The whole body covered with a deep and thick-set Plumage; which makes it appear to be of the bulk of a Capon, whereas when pluckt it is scarce so big as a chicken. The Wings are large, and reach beyond the end of the Tail. This out of *Aldrovandus*.

§. V.

* Aldrovandus *his grey Owl.* Ulula Aldrov. *as also* Gesners, Ulula Gesn.

THe Bird signified by the name *Ulula* in *Latine*, *Owl* or *Howlet* in *English*, *Hulot* in *French*, *Ul* or *Eul* in *Dutch* was doubtless so denominated from the howling noise that it makes: *Howl* in *English* and *Dutch* signifying the same that *Ululo* or *ejulo* in *Latine*. Wherefore the Bird which *Aldrovandus* exhibits under this title, sith it makes a noise like a Chicken, he will not confidently aver to be the *Ulula*, but if it may be referred to any of the *Species* of Night-birds mentioned by the Ancients, he knows not whither more commodiously than to this.

From the Bill to the end of the Tail it was eighteen inches long. The Head, Back, Wings, and Tail were of an ash-colour, speckled with whitish and black spots. Under the Belly it was white, variegated with blackish spots. The Head was very great, enormously thick, round, full of feathers: The Eyes being wholly black, and encompassed round with white, soft feathers; within the ring or *Ambit* whereof at the borders of the Eye-lids was seen as it were a red circle. In winking the Eye was covered only with the upper Eye-lid. The Bill was hooked and greenish: The Nosthrils great and patent: The Wings very large, eighteen inches long, reaching to the very end of the Tail. The Legs were hairy down to the Claws, which were ash-coloured, hooked, and exceeding sharp. It had four Toes, two standing forward, and two backward.

Its length, Colour, Head, Eyes, Bill, Wings, Legs and Claws.

Aldrovandus kept this bird three months at his house.

This seems to be the same with our *Grey Owl* before described by the title of *Strix cinerea*.

Gesner describes his *Ulula* in these words. It was as big as a Hen or bigger; the colour red, sprinkled with black: The Bill white, short, as in other *Night-birds*, hooked, so that the upper Chap is much longer than the nether: The Eyes great, black, the Pupil being of an obscure red. The edges of the Eye-lids were red. Moreover, the Eyes were covered with a nictating Membrane. Between the Eyes and Back it was thick-feathered, of an ash-colour. The Neck was very agile, so that she could turn her head much backward. The Legs were whitish, sprinkled with livid specks, rough down to the Feet. The Toes stood two forward, two backward.

Gesners ulula.

It hath not been our hap as yet to see a Bird of this kind, if it be distinct from our * *Grey Owl*. For that bird which by us in *England* is called *Owl*, and *Howlet*, and *Madge-howlet* is the *Aluco* of *Gesner* and *Aldrovandus*. Although *Owl* be with us a general name attributed to all *Night-birds*.

* *Strix cinerea* before described.

§. VI.

The little Owl. Noctua.

THe Bird we described of this kind we bought in the Market at *Vienna* in *Austria*, where they called it *Schaffilt*.

It was a Cock, scarce so big as a *Blackbird*. Its length from the Bill to the end of the tail was almost seven inches: Its breadth, the Wings being extended, more than fourteen inches. The Bill was white, and like to that of other *Owls*. The Tongue a little divided, as in the rest of this Tribe: The Palate below black, having a wide or gaping cleft, and below it a round hole: The Nosthrils oblong: The Ears great: The Eyes lesser and handsomer than in other *Owls*.

Its bigness and measures, Beak, Tongue, Palate, Nosthrils, Ears, Eyes.

Hood, The wreath or circle of feathers encompaſſing the face, beyond the Ears leſſer,
Colour of the upper ſide. and leſs eaſily diſcernable. The upper part of the body was of a dark brown, with a mixture of red, having tranſverſe whitiſh ſpots.

Its Tail. The Tail was 2 ⅜ inches long, compounded of twelve feathers exactly equal, having five or ſix tranſverſe white bars.

Colour of the under ſide. The feathers about the Ears were more variegated with black and white. The Chin and lower part of the belly white; The Breaſt marked with long dusky ſpots.

Wing-feathers, The number of beam-feathers in each Wing was twenty four; their interiour webs were ſpotted with round white ſpots.

Legs, Feet, and Talons. It was feathered almoſt down to the Claws, excepting two or three annulary ſcales. The Feet were of a pale yellow. It had two back-toes, and as many fore-ones. The ſoals of the Feet were yellow; the Claws black: The inner ſide of the middle Claw is thinned into an edge.

Gall and Guts. It had a great Gall; the length of the Guts was ten Inches; of the blind Guts one inch and a quarter.

Its place. It is found in the Woods of *Auſtria*, but rarely; reſembles much *Geſners* figure of *Noctua*, which therefore we have taken for it. Afterwards we ſaw it expoſed to ſale

Uſe. at *Rome*. They uſe it for catching of ſmall birds: See the manner in *Olina*.

Aldrovandus ſaith that it was told him, that the *Germans* do ſometimes take in their Country a ſort of little *Owl*, which when come to its full growth is no bigger than a *Lark*, which they call by a diminutive name *Keutzlin*: but however *Aldrovandus* hapned not to ſee it, the ſame bird is doubtleſs alſo found in *Italy*; for we obſerved them at *Rome* ſtanding on Pearches to be ſold; and we can hardly believe, they brought them ſo far as out of *Germany*.

§. VII.

* *Aldrovandus his* Noctua.

THat which *Aldrovandus* hath deſcribed and figured for the *Noctua* is about the bigneſs of a *Dove*, nine inches long, hath a great Head, flat above; large, grey Eyes. The feathers of the whole body are partly of a pale Cheſnut colour, partly diſtinguiſhed with white. Through the extreme parts of the Wings, eſpecially the prime feathers, it hath broad tranſverſe lines or bars of a Cheſnut colour. On the Belly it hath lines or ſpots of the ſame colour drawn longways, but inverted; the reſt of the ſpace or ground (the Heralds call it the field) being white. The Wings when withdrawn and cloſed reach as far as the end of the Tail. The Legs are feathered and rough down to the Feet, of a colour compounded of cinereous and Cheſnut. The Toes are of a dark cinereous, bare of feathers, two ſtanding each way. The Claws black, ſharp, and crooked.

* *The Stone-Owl, another ſort of* Noctua, *or perchance the ſame with the precedent.*

This (ſaith he) which the *Germans* call *Steinkutz*, that is, *Stone-Owl*, is alſo about the bigneſs of a *Dove*; hath the Legs and Toes rough, with white feathers, but the lower ſides of the Toes are bare, the Claws black and hooked. The colour all over the prone or nether ſide of the body was a dark brown, with a ſleight mixture of red, dapled with whitiſh ſpots. The Head in reſpect of the body very great: The Eyes large: The Bill ſhort, and like an *Eagles*. In the dead bird the upper Chap of the Bill was red, which ſeemed not to be ſo before, while it was living. Between the Eyes and the Bill grew certain ſtiff, ſlender feathers, like briſtles or beards. It had more white on the Belly than the other parts. I ſuppoſe it lives and frequents chiefly in Mountainous and Rocky places, and therefore to defend the cold hath its Feet and Toes feathered like the *Lagopus* and *Grygallus*. For the other *Noctuæ* have not their Feet rough, neither are they of a reddiſh colour. They ſeem to be leſs brisk and lively than our *Italian Noctuæ*, and almoſt blind in the day time.

§. VIII.

* *The Braſilian* Noctua *called* Cabure *by* Marggrav.

IT's about the bigneſs of a *Throſtle:* hath a round Head, a ſhort, hooked, yellowiſh Bill; two Noſthrils; fair, great, round, yellow Eyes, with a black Pupil. Under the Eyes, and on each ſide the Bill it hath many long, dusky hairs. The Legs are ſhort, wholly cloathed with feathers, yellow, as are alſo the Feet, which are cloven into four Toes, ſtanding after the uſual manner, armed with ſemicircular, crooked, ſharp Talons: The Tail broad, nigh the riſe whereof the Wings end. In the Head, Back, Wings, and Tail it is of a dilute *Umber* colour, and variegated in the Head and Neck with very ſmall, in the Wings with greater white ſpots. The Tail is waved with white. The Breaſt and lower Belly are white, and variegated with ſpots of a dilute *Umber* colour. It is eaſily made tame. It can ſo turn about its Neck, that the tip of the Beak ſhall exactly point at the middle of the Back. It plays with men like an *Ape*, making many mowes and antic mimical faces, and ſnapping with its Bill. Beſides, it can ſet up feathers on the ſides of its head, that repreſent Horns or Ears. It lives upon raw fleſh.

Chap. III. §. I.

The Fern-Owl, or Churn-Owl, or Goat-ſucker, Caprimulgus.

ITs length from the Bill to the end of the Tail was between ten and eleven inches: Its Head great, but much leſſer than in the Owl-kind: Its Bill in proportion to its body the leaſt of all birds, and a little crooked. It hath a huge wide mouth and ſwallow. *In palato appendices nullæ, ſed primùm longa fiſſura, fundo tenui oſſiculo ſeu ſepto per medium diviſo: infra eam fiſſuram alia latior & brevior, & ad hujus fundum linea appendicum tranſverſa.* Theſe words I do not well underſtand, and therefore have not put them into *Engliſh*. On the ſides of the upper Chap of the Bill, as alſo under the Chin it had ſtiff black hairs like briſtles. Its Length, Head. Bill, Mouth.

The under ſide of the body was painted with black and pale-red lines, tranſverſe, but not continued: The hinder part of the Head of an aſh-colour, the middle of each feather being black; which colours alſo reach lower down the Back. The colour.

The Wings are particoloured of black and red: The covert-feathers of the Wings are ſome of them powdred with cinereous. The Tail near five inches long, made up of ten feathers, the outmoſt whereof are ſomething ſhorter than the reſt; the middlemoſt aſh-coloured, with very narrow, tranſverſe, black bars; in the reſt the croſs bars are broader, and the intermediate ſpaces of an aſh-colour, powdered with black, and a little tinctured with red. The Wings, Tail,

The Legs were very ſmall in proportion, feathered on the fore-ſide half way, but the feathers hung down almoſt to the Toes. The Toes were blackiſh, and the Claws black and little; the middlemoſt Toe the longeſt, the inner and outer ſhorter, but equal to one another, and joyned to the middlemoſt by a Membrane from the divarication to the firſt joynt. The interiour edge of the middle Claw is ſerrate, as in *Herons*. The back-Toe (if it may be ſo called, ſtanding like one of the fore-toes) is ſcarce a quarter of an inch long. Legs, Feet, and Claws.

In the ſtomach it had ſome Seeds and Beetles. The Eggs were long, and white, but a little clouded and ſpotted with black. Its food and Eggs.

It is a very beautiful bird for colour, more like to a *Cuckow* than an *Owl*; and it is eaſily diſtinguiſhed from all other birds by the ſtructure of its Bill and Feet.

In another bird of this kind, perchance differing only in Age or Sex, the three firſt or outmoſt great Wing-feathers had a large white ſpot in their interiour Vanes, which in the third feather reached alſo to the exteriour: The tips alſo of the two outmoſt feathers of the Tail were ſpotted with white. There was ſome ſhew of theſe ſpots of a pale yellowiſh colour in the firſt deſcribed.

It is found in the Mountainous Woods, eſpecially in many places of *England*, as in *York-ſhire, Derby-ſhire, Shrop-ſhire*, &c.

§. II.

* *The American Goat-ſucker, called* Ibijau *by the Braſilians,* Noitibo *by the Portugues.* Marggrav.

THis is a ſmall bird, of the bigneſs of a *Swallow:* Hath a broad flat Head: Great, lovely, black Eyes, with a black, ſhining Pupil, of an elliptical figure: Outwardly a circle or ring of yellowiſh white compaſſes the Eyes. It hath a very little Bill, not exceeding the thickneſs of the tooth of a * Shrew-mouſe, and not ſo long: yet hath it patent Noſthrils in the Bill: An exceeding wide Mouth, which when ſhut cannot be ſeen; but when ſhe opens her Bill, appears ſlit up to the Eyes, ſo that it is almoſt an inch wide. It hath a very little Tongue: White Legs, and ſmall for the bigneſs of the body, ſcarce half an inch long: Four Toes in the Feet, three ſtanding forward, and one backward, armed with black, crooked Claws. Along the Claw of the middle Toe of each foot on the inſide it hath as it were a fin, much jagged or toothed, ſo that the Claw ſeems feathered in a manner on the inſide: But there are no feathers on it but a certain skinny rough matter. It hath a handſom Tail, two inches long, which it can ſpread wide; to the end whereof the Wings reach. In all the lower part of the body the feathers are mixt white and black, as in a *Sparrow-Hawk:* In the Head, Back, Wings, and Tail they are black, white being interſperſed with a grateful variety; and ſomething alſo of yellow mingled with the white: In a word, it is black, and ſpeckled here and there with white.

* The word in Latine is *Araneus.*

There is alſo found another Species of this, of the ſame colour and make with this, but as big as an *Owl.* The mouth opened will eaſily admit a mans fiſt.

§. III.

* Marggravius *his Braſilian* Guira querea, *approaching to the Goat-ſucker, or Swift.*

IT is of the bigneſs of a *Lark*, but becauſe it hath long Wings and a Tail much longer, it ſeems greater. It hath a broad, flat, and pretty great Head; great black Eyes: A ſmall, triangular, compreſſed Bill, the upper Chap being hooked: A wide Mouth, much wider than the Bill, and which being opened repreſents a Triangle. At each end of the upper Mandible on both ſides, for the length of an inch in either, it hath about ten or twelve thick briſtles like Swines, ſtretched forth both forward and ſideways. Its body is not long, but almoſt round. Each foot hath four Toes ſtanding after the uſual manner, the middle whereof is longer than the reſt; and furniſhed with a Claw finely ſerrate, or toothed like a Comb. All the Claws are black. It hath long Wings, *viz.* half a foot: The Tail eight inches long, having in the outſides two feathers longer than the reſt. The whole Bird is of a dusky aſh-colour, with dark yellow or whitiſh ſpots intermingled after the manner of a *Sparrow-Hawk.* Round the Neck, behind the Head, it hath a ring of a dark golden colour. The Legs are cinereous or dusky. The Toes connected by a little skin, not ſo broad as in *Ducks*; for it is no water-fowl.

This latter Bird doth more reſemble a *Swallow* than a *Goat-ſucker:* The former alſo is not unlike the *Hirundo apus* or *Swift.* Indeed the *Goat-ſucker* and *Swift* agree in many particulars, as the ſmalneſs of the Bill, the wideneſs of the Mouth, the ſhortneſs of the Legs, and ſituation of the Toes.

Book I. Part I. Sect. III.

Of Frugivorous Hook-bill'd Birds or Parrots.

Chap. I.

Of Parrots in general.

The *Parrot* hath a great Head, a hard Beak and Skull. But why Nature gave it a hooked Bill, whereas it is rather a Frugivorous than a Carnivorous or Rapacious Bird, *Aldrovandus* gives this reason: Because for the weakness of the Feet, descending or climbing up boughs or grates, it could not commodiously sustain the weight of its body, were not the Bill of that crooked semicircular figure, that it can as it were with a hook or grapple catch hold of whatever is near. For the *Parrot* in climbing Walls or Trees first catches hold with her Bill, as it were with a Hook, then draws up her body, then fastens her Feet; then reaching up higher claps on her Beak again, and so puts forward her body and feet alternately.

The *Parrot* alone with the *Crocodile* moves the upper Jaw, as all other Animals do the lower. The Tongue is broad, which is common to it with other Rapacious birds, of the figure of a *Gourd-seed*, as *Scaliger* notes. Hence it is called in *Greek* Ἀνθρωπόγλωττος, both because its Tongue resembles a mans, and also because it imitates humane speech. The Feet are of a singular fashion, for they have not three Toes standing forward and one backward, but two each way, like *Woodpeckers*. *Jo. Faber*, in his Expositions of *Nardi Antonio Recchi* his Animals found in *New Spain*, hath noted and observed concerning the Toes of *Parrots* something not mentioned by any Author, *viz.* That when they walk, climb up, or descend down the sides of their Cages, they stretch two of their Toes forward, and two backward; but when they take their meat, and bring it to their mouths, they make use of three Toes to hold it till they have eaten it up. Yea, (which may seem wonderful) they do so dexterously and nimbly turn the greater hind-toe forward and backward, that on sight of it you would confess your self not to know, whether it were given them by Nature to be used as a fore-toe in feeding, or a back-toe in walking. *So that it seems in this respect they resemble Owls.* It hath crooked Claws, wherewith it holds its meat like Rapacious birds, and brings it to its mouth, after the manner of men. For taking it in its Toes it lifts it up to its mouth, not turning the foot inward, but outward, after a fashion not only usual and ridiculous, but one would think also incommodious. It doth not only first of all with its Bill as it were with Teeth break or divide entire *Almonds*, but rolling them up and down within the Cavity of its Bill, doth as it were champ and chew them, softning them before it swallows them. *Parrots* while they are yet wild and at liberty do eat all sorts of grain and pulse. And this is peculiarly observed of them above other creatures, that as *Swallows* feed upon *Hellebore*, and *Starlings* upon *Hemlock*, so do they upon the seed of * *Bastard Saffron* (which to man is a purgative) not only without receiving harm thereby, but growing fat with it. Moreover, they eat all sorts of fruits, as well such as are covered with a soft rind, as those with a hard shell, *viz.* Nuts, *&c.* and are greatly delighted in them.

* *Cnicus* or *Carthamus.*

They do not only imitate mans voice, but in wit excell all other birds, as *Aldrovandus* proves by many Histories and examples. I shall not think much to set down one very pleasant story, which *Gesner* saith was told him by a certain friend, of a *Parrot*, which fell out of King *Henry* VIII. his Palace at *Westminster* into the River of *Thames* that runs by, and then very seasonably remembring the words it had often heard some whether in danger or in jest use, cried out amain, *A Boat, a Boat, for twenty pound.* A certain experienced Boatman made thither presently, took up the Bird, and restored it to the King, to whom he knew it belonged, hoping for as great a reward as the Bird had promised. The King agreed with the Boatman that he should have as the Bird being asked anew should say: And the Bird answers, *Give the Knave a Groat.*

They are very frequent in both *Indies*, as well *East* as *West*. They breed not in cold Countries; for they are impatient of cold, so that they can hardly bear our Winters,

Winters, unleſs they be kept in Stoves or hot places: And whereas in their own Country, to wit, the *Indies*, they are much upon the Wing, with us by reaſon of the inclemency and ſharpneſs of the Air they grow torpid and unactive, and leſs fit for flight. They are ſaid to be very long-lived.

They breed in hollow trees (witneſs *Marggravius*, *Lerius*, and *Piſo*) where they make a round hole outwardly, and lay two or three Eggs, like to *Pigeons*, without any made Neſt, as *Marggravius* ſaith: *Lerius* affirms, that they do build Neſts ſufficiently firm and hard, of a round orbicular figure. Whence it is manifeſt that they do not hang their Neſts upon the ſlender twigs of Trees, as *Cadamuſtus* and others have delivered. For that bird which hangs its Neſt on this faſhion, called by the *Braſilians Guira tangeima*, as *Marggravius* writes, is much different from the *Parrot*. Though you touch her Eggs yet will not the *Parrot* forſake them, but hatch them notwithſtanding. *Parrots* are made of ſeveral colours by the **Tapuyæ*, by plucking them when they are young, and then ſtaining their skins with divers colours. Theſe the *Portugues* call *counterfeit Parrots*. Which thing if it be true (for to me indeed it ſeems not probable) it is to no purpoſe to diſtinguiſh *Parrots* by the diverſity of colour, ſith therein they may vary infinitely.

* A people of *Braſil*.

In all *Parrots* that I have hitherto obſerved the Noſthrils were round, ſituate in the upper part of the upper Chap, cloſe by the feathers, and very near one to another.

Parrots in reſpect of bigneſs may be divided into three kinds, *viz.* the *greateſt*, *mean-ſized*, and *leaſt*.

The *greateſt* are equal in bigneſs to our common *Raven*: or (as *Aldrovandus* ſaith) to a well-fed *Capon*; and have long Tails: In *Engliſh* they are called *Macaos* and *Cockatoons*. The *middle* or meanſized and moſt common *Parrots* are as big or bigger than a *Pigeon*, have ſhort Tails, and are called in Engliſh, *Parrots* and *Poppinjayes*. The *leaſt* are of the bulk of a *Blackbird* or a *Lark*, have very long Tails, and are called in Engliſh *Parakeetos*.

Chap. II.

Of the greateſt ſort of Parrots called Maccaws *and* Cockatoons.

§. I.

* Aldrovandus *his greateſt blue and yellow* Maccaw.

The body of this equals a well-fed *Capons*. From the tip of the Bill to the end of the Tail it was two Cubits long. The Bill hooked, and in that meaſure that it made an exact ſemicircle, being outwardly conformed into the perfect roundneſs of half a ring, a full Palm long; and where it begins as thick within half an inch, if you meaſure both Mandibles. The upper Mandible is almoſt two inches longer than the nether, which on the lower ſide downward is convex and round. The whole Bill is black. The Eyes white and black. Three black lines drawn from the Bill to the beginning of the Neck, repreſenting the figure of the letter S lying, compaſs the eyes underneath. The Crown of the Head is flat, and of a green colour. The Throat adorned with a kind of black ring. The Breaſt, Belly, Thighs, Rump, and Tail underneath all of a Saffron colour. The Neck above, Back, Wings, and upper ſide of the Tail of a very pleaſant blue or azure. The Tail eighteen inches long more or leſs. The Legs very ſhort, thick, and of a dusky or dark colour, as are alſo the Feet, the Toes long, armed with great, crooked black Talons.

§. II.

* *The other* Maccaw *or* Macao, *of* Aldrovandus.

THis is nothing leſs than the foregoing, of the ſame length, but ſeemed not to be ſo thick-bodied. Its Bill is ſhorter than the precedents, being not drawn out into ſo long a hook, yet almoſt three inches long; and as many broad, where it is joyned to the head; the upper Chap being white, the nether black. The region of the Eyes and the Temples are white. The crown of the Head more than a Palm long and flat. The Back, beginning of the Wings, Throat, Breaſt, Belly, Thighs, and finally the whole Tail above, are beautified with a moſt lovely * Scarlet or red colour, as is alſo the inner ſide of the flag-feathers of the Wings. The ſecond row of the covert Wing-feathers are yellow with ſcarlet edges, each adorned with a kind of eye of blue near the tip. The outer ſurface of the flag-feathers and the Rump [I ſuppoſe he means the Tail] underneath tinctured with a deep blue. The Legs are ſhort, the Feet divided into long Toes, armed with crooked Claws: Both of a duskiſh or dark aſh-colour.

* The Latine word is *Puniceo*, ſignifying a light crimſon or bluſh colour.

§. III.

A Maccaw *deſcribed at* London, *the ſame I ſuppoſe with the precedent, called by* Marggrav. Araracanga.

AT *London* we obſerved and deſcribed a certain *Macao*, either the ſame with the precedent (I mean in kind) or very like it. It was of the ſame bigneſs, had a huge Bill, the upper Mandible being almoſt wholly white, the lower black. The skin about the Eyes was bare of feathers, and rough or rugged. The whole head, Breaſt, and Belly red [like *minium*:] The Wings and Tail parti-coloured of red, yellow, and blue. The Tail of a great length, eſpecially the two middlemoſt feathers, which do much exceed the reſt, and are of a blue colour.

I take that which *Marggravius* deſcribes *Book* 5. *Chap.* 9. to be the ſame with this. Let the Reader compare the deſcriptions: His runs thus. It is bigger than our common *Raven*: Hath a great Head, broad and flat above; fair * grey Eyes [* *Cæſius*] with a black Pupil. A white Membrane encompaſſes the Eyes, as alſo the Jaws and lower Bill: [I ſuppoſe he means, that the skin thereabouts is white and bare of feathers:] This under the Eyes is produced in a ſemilunar form: The Bill is great, hooked, white above, black underneath. It hath a Tongue like a *Parrot*, and eats after the ſame manner. It learns alſo to pronounce ſome words. The upper Chap of the Bill is about three inches long, broad or deep. It hath black Legs and Feet like a *Parrot*. The whole Head, Neck, Breaſt, Belly, Thighs, and Tail underneath, as alſo the beginning of the Wings above are cloathed with moſt lovely and elegant red feathers: The middle part of the Wings is adorned with green, and the lower half of them from the middle to the end with blue. The Rump or lower part of the Back, and the Tail are blue, ſome brown feathers being alſo intermingled. The Tail is about ten inches long, running out much beyond the ends of the Wings.

Marggravius his *Araracanga*.

§. IV.

* *The* Macao *called* Ararauna *by the Braſilians*, Marggrav. *the ſame with* Aldrov. *his firſt.*

IT is in ſhape like the precedent, but of a different colour. Its Bill black; Eyes grey, Pupil black. The skin about the Eyes white, variegated with black, as if it were wrought with a Needle. The Legs and Feet dusky [*fuſca.*] The forepart of the Head above the Bill hath a copple or tuft of green feathers. Under the lower Bill black feathers compaſs the Throat. The ſides of the Neck, the whole Breaſt and lower Belly are covered with yellow feathers: The hinder or extreme part of the Head, the backſide of the Neck, the whole Back and outſides of the Wings with blue. The ends of the Wings have yellow feathers mingled with the blue. The Tail conſiſts of long blue feathers, wherewith ſome yellow ones are mingled. The inner or underſide of all the blue feathers in general is black: Theſe feathers do alſo caſt a ſhew of blackneſs from their ſides.

Upon

Upon comparing the deſcriptions I find, that this is the very ſame bird with *Aldrovandus* his firſt *Macao*.

§. V.

* *The former Braſilian* Maracana *of* Marggrav.

IT is a Bird altogether like a *Parrot* (of which alſo it is a Species) but bigger. All its feathers of a bluiſh grey. It cries like a *Parrot*. It loves fruit, eſpecially *Murucuja*.

§. VI.

* *The other* Maracana *of* Marggrav.

THis is alſo a ſort of *Arara* [he means by this word a *Maccaw*, for ſo it ſeems the *Braſilians* call *Maccaws*] but leſſer, about the bigneſs of a *Parrot*, It is of the ſhape of a *Maccaw*, [*Arara*] hath ſuch a long Tail, a like Bill and skin about the Eyes. The Bill is black; the skin about the Eyes white and ſpeckled with black feathers: The Eyes yellowiſh, the Pupil black. The whole Head, Neck, and Wings are of a deep green as in *Amurucurica*: The top of the Head is more dilute, and in a manner inclining to blue. The Tail conſiſts of feathers above green, underneath of a deep red, having their ends blue. The Wings likewiſe are read on the inſide, green on the outſide, having their ends blue. At the riſe of each Wing it hath a red ſpot. At the riſe of the Bill above it hath a dusky ſpot. The Legs and Feet are dusky. It cries *Oe, Oe, Oe.*

Chap. III.

Of middle-ſized Parrots, properly called Parrots and Poppinjayes.

§. I.

* *The white creſted Parrot of* Aldrovandus.

IT was about thirteen inches long, as big as an ordinary young Pullet, or the greateſt ſort of tame Pigeon. *N. B.* I here meaſure the length from the tip of the Bill to the end of the Wings, for meaſuring to the end of the Tail it is about eighteen inches. Its Tail contrary to the manner of other *Parrots*, is not ſtretched out directly backwards in length, but erected after the faſhion of the common *Dunghill-Cock* and Hens. It hath an aſh-coloured Bill, inclining to black, having wide open Noſthrils near the Head, and riſing up, with a round ridge or bunch between them. The Tongue is broad and red: The *Irides* of the Eyes yellow, the Pupil black. The whole body cloathed with white feathers. The crown of the Head is adorned with fair feathers, a handful and half high, bending ſomewhat backward, ending in ſharp points again reflected forwards, ten in number, as it were a creſt. The Tail in like manner is erected on high, conſiſting of a great many white feathers, nine inches long, ſuch as are ſeen in the Tails of *Dunghil-Cocks*. The Legs and Feet are yellowiſh: The Claws ſmall, ſcarce hooked and black.

§. II.

The moſt common green Parrot having the ridge of the Wing red. Aldrov.

THis is nothing leſs, if not bigger, than the white *creſted Parrot*, almoſt fifteen inches long, of the bulk of the greateſt tame Pigion or a Pullet of the firſt year. [With us they are not ordinarily ſo big.] The upper Chap of the Bill is black at the point, then bluiſh, the remainder being red; the lower Chap white: The *Iris* of the Eye of a Saffron colour, or rather red, the Pupil black: The crown of the Head yellow: All the reſt of the body is green, the under ſide more dilute and yellowiſh; the Back and Wings darker, and the greateſt and outmoſt Pinion feather inclining ſomewhat to blue. Only the uppermoſt ridge of the Wings is red;

as

as also the Tail, which is but short: In the lower part on each side it is marked with a long, red spot, but above it is yellow. The Legs and Feet are ash-coloured: The Claws black, and not much hooked.

This kind is the most common of all with us. *In those I described at* London *there was a white circle about the Eyes: and the upper Chap of the Bill had on each side a tooth-like process or* Appendix, *to which answered a dent or nick in the lower.*

§. III.

* Aldrovandus *his Parrot with a particoloured Bill.*

FRom the tip of the Bill to the end of the Tail it was eighteen inches long. The upper Chap in the upper part was of a bluish green, of a yellow Oker colour in the sides; the tip crossed with a white spot: The lower Chap of the Bill of a lead-colour round about, and yellow in the middle, the crown of the Head adorned with yellow or golden feathers. The rest of the body was for the most part green, the Back darker, the Belly and Breast lighter, with a gloss of yellow, the roots or bottoms of the feathers being every where cinereous. The flag-feathers on their outer webs toward the belly were first green, then by little and little growing blue, terminate in a purplish colour, being elsewhere black. The second row of Wing-feathers were wholly yellow. Those which grew about the middle of the Wings, at their beginning, on the outer web, which respects the belly, were first green, then of a dark red, then green again, and lastly at their tips partly of a violet colour, partly black, with so great variety. The Tail is composed of twelve feathers, of which four on each side at their rise or beginning are first green on the exteriour web, yellow on the interiour, then of a red or Scarlet colour, thirdly green again, and lastly yellow. The four remaining middle feathers are wholly or all over green, only at their very ends shew something of yellow. The Feet are of a lead-colour, having four toes, two standing forward, and two backwards, as in *Woodpeckers*; the interiour being much shorter than the exteriour. The Claws crooked as in Rapacious birds. The Legs not above an inch long, but pretty thick.

§. IV.

* *The black-billed green Parrot of* Aldrovandus.

THis is thirteen inches long, hath a great, thick Bill, like the rest, but wholly black. At the beginning of the Bill, on the Crown, and under the Throat it is of a blue colour, tending to green. The *Iris* of the Eye is of a dark Saffron, the Pupil black: The rest of the Head and the Breast yellow: The Belly of a middle colour between yellow and green; as also the upper side of the Tail. The Neck and all the Back with the Wings are of a deep green: So that it would be almost wholly green, but that the very extreme ridge of the Wing, where it is joyned to the body, is of a Scarlet red; and then follows a black feather in the outside or extremity of the Wings which respect the belly, and lastly the tips of the flag-feathers are red. Besides these also the lower part of the Rump is tinctured with a Scarlet red. The Feet are dusky: The Talons black, and somewhat crooked. The Tail is about a Palm long more or less.

§. V.

* *The white-headed Parrot of* Aldrovandus.

IT is ten inches long: The Bill white, and two inches thick: That part of the Head next to the Bill is also white: The Pupil of the Eye black, the *Iris* ferrugineous. The forehead and crown of the head are white, variegated with black spots. The hinder part of the Head, Neck, Back, Wings, and Rump above are tinctured with a dark green: The Throat and uppermost ridge of the Wings with a Vermilion red. The Breast and Thighs again are green. The part of the Belly lying between the Thighs and the Breast is of a dusky colour obscurely red, or of that the Painters call *Umber* [*terræ Umbriæ.*] Some of the covert-feathers of the Wings, *viz.* the outmost, are blue, but with some mixture of white. The lower part of the belly next

the Rump yellow. The Tail is red in the middle; the ſides being variegated with red, yellow, and blue. Almoſt all the feathers have their utmoſt tips black, but elſe are green: The Legs and Feet cinereous. This Bird from the great variety of its colours might well be called the particoloured or many-coloured [ποικίλος] *Parrot*; it being of no leſs than ſeven ſeveral colours, of which yet the chief is green.

Mr. *Willughby* doth thus briefly deſcribe either this ſame *Parrot*, or one very like it. It is of a green colour, leſſer than a *Pigeon*: The *Irides* of the Eyes of a Hazel colour. The Bill is white: From the Bill to the middle of the crown it is alſo white. Under the Eyes and the under Chap it is of a Vermilion colour. The middle of the Breaſt and Belly between the Legs is reddiſh. The outer webs of the Tail-feathers to the ſhaft are of a flame-colour. Towards the crown of the Head the edges of all the feathers are dark or blackiſh. The outmoſt flag-feathers are bluiſh. The exteriour border of the Tail-end is bluiſh. A dark ſpot covers the Ears. The lower part of the Belly is of a yellowiſh green.

§. VI.

* *The red and blue Parrot of* Aldrovandus.

THis bird is nine inches long, ſufficiently corpulent. The Bill not ſo great as in the precedent, blackiſh: The Head, Neck, and Breaſt are blue: The top of the crown remarkable for a yellow ſpot. The region of the Eyes white; the Pupil black; the *Iris* dusky. The ſides of the Belly under the tips of the Wings yellow: The Belly green. The Thighs white, with a ſhadow of green. The Rump yellow. The top of the back of a pale blue. The covert feathers of the Wings particoloured of green, yellow, and roſie. The end of the back or region of the loins yellowiſh. The Legs and Feet are aſh-coloured, the reſt of the body is of a roſe-colour or bluiſh.

§. VII.

Aldrovandus *his aſh-coloured or bluiſh Parrot.*

THis according to *Aldrovandus* is ten inches long: Of the bigneſs of a tame *Pigeon*, or the common green *Parrot*. The Bill is black: The Noſthrils near to one another, in the upper part of the Bill next to the Head; which part is covered with a naked white skin [we afterwards obſerved the ſame figure and ſituation of the Noſthrils in all other *Parrots*.] The whole body is of an uniform colour, *viz.* a dark cinereous: Yet the lower part of the Back and Belly and the Rump are paler than the reſt of the body, and almoſt white. The Tail is red of a Vermilion colour, very ſhort, and ſcarce reaching further than the ends of the Wings. The region of the Eyes [ſides of the head round the Eyes] is white and bare of feathers. The feathers of the Head and Neck are ſhorter than the others. They ſay that all of this kind are brought from *Mina*, an *Indian* City of St. *Georges*. We have ſeen many of them at *London*.

§. VIII.

* *The red and white Parrot of* Aldrovandus.

IT is equal to an indifferent great Capon, ſeventeen inches long. The Head and Neck thick. The whole body white, but moderately ſhaded with dusky, ſo that it ſeems to be aſh-coloured. Its Bill is black, the hooked part being longer than in others. The hinder part of the Back, the Rump, the whole Tail, and prime feathers of the Wings are of a Scarlet colour [*Miniaceo colore.*] The Feet, as in others, blackiſh. In bigneſs of body it gives not place to that greateſt ſort which are leſs vocal, called *Maccaws*: In this only it is inferiour to them, that it hath a ſhorter Tail: For which cauſe, notwithſtanding its magnitude, we have placed it in this *Claſſis* or rank.

§. IV.

§. IX.

* Marggravius *his middle-sized Parrots.*

The first *Species* called AJURUCURAU is a very elegant bird. Above the Bill on the head it hath a tuft or cop of a lovely blue. The throat, sides, and upper part of the Head are cloathed with feathers of a delicate yellow: The whole body of pleasant green. In brief, it is elegantly variegated. The Tail is green, but when it spreads it appears edged or fringed with black, red, and blue. The Legs and Feet of an ash-coloour: The Bill more dusky: The Eyes black, with a golden circle about the Pupil. The Tongue of all is broad and thick.

The second Species is like to the former, a little differing in the variegation of the colours, *viz.* On the top of the Head it hath a yellow cop, wherewith white is mingled. Above the Eyes, and under the Throat it is of a clear or bright yellow. About the upper Bill is a Sea-green spot.

The third Species called AJURUCURUCA hath a tuft on its Head of a colour mingled of blue and a little black; and in the middle of the tuft a yellow spot. Below the Eyes is a yellow, and on the Throat a blue spot. The Breast is green, as are also the Wings and Back, but somewhat deeper or darker, the ends of the Wings and the Tail again being more dilute: the tips of the Wing-feathers are yellow and red, mingled with blue. The Tail underneath is particoloured of green and yellow, above of a pale green. The Legs of a bluish ash-colour. The Bill above cinereous, in the extremities black. The Claws black.

PARAGUA is a black Parrot of the bigness of *Ajurucariu*: The Breast, Back, and anteriour half of the belly remarkably red: The Eyes black, encompassed with a red circle or *Iris*: The Bill dusky, or of a dark ash-colour.

The TARABE of the *Brasilians* is a green *Parrot* bigger than a *Paragua*, with a red Head and Breast, of which colour is also the beginning of the Wings. The Beak and Feet are of a dark ash-colour.

AJURUCATINGA of the *Brasilians* is a *Parrot* of the bigness of a handsom Pullet: All green, with red Eyes, and the skin about the Eyes white: The Bill and Legs white. It hath a long green Tail. *This in colour and length of the tail agrees with the Parakeet, but differs from it in bigness.*

AJURUPARA agrees in all respects with the precedent, only it is less.

CHAP. IV.

Of the lesser sort of Parrots, called Parrakeets.

§. I.

* *The Ring-Parrakeet or* Psittacus *of the Ancients,* Aldrov.

This was the first of all the *Parrots* brought out of *India* into *Europe*; and the only one known to the Ancients for a long time, to wit, from the time of *Alexander* the Great to the Age of *Nero*, by whose searchers (as *Pliny* witnesseth) *Parrots* were discovered elsewhere, *viz.* in *Gagaude* an Island of *Æthiopia*. It is fourteen inches long; hath a thick Bill, all over red: A yellow *Iris* or circle encompasses the Pupil of the Eye, which is, as in most birds, black. The head and all the body besides is green; but the neck, breast, and whole underside more dilute or pale: the upper side deeper-coloured. From the lower Chap of the Bill under the Chin a black line is drawn downward as far as the beginning of the Breast, which then divides, and goes away to each side of the neck, till it meet with that red circle or ring, which compasseth the backside of the Neck. This ring is behind of the breadth of ones little finger, but grows narrower by degrees towards the sides. The belly is of so faint a green, that it seems almost to be yellow. The outmost feathers of the Wings next the belly are of a dark dusky green about the middle, in the upper part distinguished with a red mark. The Tail, which is about two Palms long, is also of a yellowish green: The Legs and Feet ash-coloured. Whence *Solinus* doth not

rightly affirm, that it hath no difference of colour but only the ring of red about the Neck: Nor *Apuleius*, that the out-sides of the feet are red, [*extimas palmulas rubere*] they being cinereous: Unless we can think they described another bird of this sort.

§. II.

* *The wholly green Parrakeet of* Aldrovandus.

THis is of equal length with the former, but less bodied; being not bigger than a *Throstle* or *Mavis*. The Bill is red, especially the upper part; for the * edges [*acies*] and lower part are blackish: the Pupil of the Eyes black, the *Irides* of a red and Saffron colour. The rest of the body is of a pleasant grass-green, yet the belly more pale, the master-feathers of the Wings of a deeper colour. The Tail narrow, ending almost in a point, near nine inches long. The Feet and Legs of a different colour from all other Parrots, *viz.* a red or * carneous. This is peculiarly by a distinct name called *Scincialo* in *Hispaniola* an Island of *America*, where it is found. The *Italians* for its small stature and bulk call it *Parochino*, and the *Frenchmen* (as *Bellonius* saith) *Perroquet*.

* Perchance he means the point.

* Flesh-colour.

The red and yellow or pale green *Parrakeet* of *Aldrovandus* described by the Picture thereof sent with many others out of *Japan* to Pope
I suspect to be fictitious, at least in many particulars, as are doubtless the rest of those Pictures, therefore I have omitted it, referring the Reader, who desires further knowledge of it, to *Aldrovandus*.

§. III.

* *The crested red and green Parrot of* Aldrovandus.

THe Wings, Tail, and Crest of this bird were red, the rest of the body green. Its Crest resembled that of the crested *Parrot* above described. It had very fair Eyes, with a black Pupil and red *Iris*. The Crest consisted of six feathers, three greater, and as many less.

§. IV.

* Marggravius *his Parrakeets, called by the Brasilians* Tui.

THe *first Species* is of the bigness of a *Swallow*: all over green: Having a very long long Tail, and a black hooked bill. This may be the second sort.

The *second Species*, called TUIAPUTEJUBA, is also all over green; the Wings darker, the rest of the body paler, save the belly, which is yellowish: The Tail is very long. The Bird is of the same bigness with the former: Hath great, blackish Eyes: A circle of yellow feathers about the Eyes, and above the Bill, which is black and hooked. On the head it hath a great spot of orange-coloured feathers.

The third, called TUITIRICA, is somewhat bigger than those of *Guiny*, of a green colour all over, which for the most part is deeper in the Back and Wings, paler in the other parts: The Bill crooked, of a Carnation colour: The Eyes black, the Feet bluish. The Tail reaches a little beyond the ends of the Wings. These become very tame, so that they will take meat out of ones mouth, and permit one to stroke and handle them. They learn also to talk like *Parrots*.

The *fourth* is of the bigness of a *Stare*, of the same colour with the second Species, but having a shorter Tail.

The *fifth*, called JENDAYA, is of the bigness of a *Blackbird* or *Throstle*, hath a black Bill and Legs; black Eyes, with a golden *Iris* or circle encompassing the Pupil, outwardly white. The Back, Wings, and Tail, as also the lower belly are covered with green feathers, with which a Sea-colour is mingled. The * extremity of the Wings is in a manner black. The whole Head, Neck and Breast are of a yellow colour, partly deeper, and partly paler.

* I cannot say whether he means the end, or out-side.

The sixth, called TUIETE, is of the bigness of a *Lark*: The whole body of a light green: But the beginning of the Wings of a bright blue. The borders also of all the feathers of the Wings are blue, so that when they are closed, these borders altogether

together make an appearance of a long green ſtroke near the outſides of the Wings. In the back alſo at the riſe of the Tail there is a blue ſpot. The Tail is ſhort: the Bill hooked, of a Carnation colour. The Legs and Feet cinereous.

The *ſeventh*, called TUIPARA by the *Tupinambi*, is alſo of the bigneſs of a *Lark*, and all over of a pale green. The Tail ſhorter, ſo that it ends with the Wings [being equally extended.] The Bill of a Carnation colour, the Legs grey or griſled. Near the riſe of the Bill, in the forehead it hath a Scarlet ſpot of a ſemilunar figure, as it were a Crown. [*The following words corrupted, I ſuppoſe, by the errour of the Tranſcribers or Printers, not underſtanding, I have omitted.*] They build in Ant-heaps left by the Ants, which are found in trees.

ANACA of the *Braſilians*, is again of the bigneſs of a *Lark*. Its Bill dusky and hooked. The feathers on the top of the head are of a Liver-colour: On the ſides of the Head about the Eyes of a brown. The Throat is aſh-coloured: the Neck above and the ſides green. The Belly hath reddiſh brown feathers. The back is green, and hath a ſpot of a light brown. The Tail is alſo of a dilute brown. In the beginning of the Wings is a crimſon ſpot or border: The reſt of the Wings green; the ends only of a Sea-water colour. The Legs above covered with green feathers, below bare, and of an aſh-colour, having black Claws. In fine it is a very elegant bird.

QUIJUBATUI is all yellow, of the bigneſs of *Tuiapara*: with a hooked grey Bill, and black Eyes. The end of the Wings is of a dark green: The Tail long and yellow. It eaſily becomes very tame.

§. V.

The Scarlet Parakeeto with green and black Wings.

IT is bigger than a *Blackbird*: The whole body of a Scarlet colour: The covert feathers of the Wings green; the prime feathers black; having their exteriour webs green above, and of a Crimſon colour underneath. The ridges of the Wings yellow. The Tail a Palm long, conſiſting of twelve feathers, whoſe lower halves are red, the upper being green or yellow. The Bill yellow, very much hooked, hanging down half an inch. The *Irides* of the Eyes yellow: The skin of the ſides of the Head round the Eyes is bare, and of an aſh-colour. The Legs very ſhort and black. A ring of green feathers compaſſes the legs above the knees. We ſaw this at *London* in the ſhop of a certain tradeſ-man, who told us that it was brought out of the *Eaſt-Indies*.

CHAP. V.

* Cluſius *his Diſcourſe and Account of Parrots.*

THE Noble *Philip Marnixius* of St. *Aldegond* had a *Parrot*, whom I have oft heard laugh like a man, when he was by the by-ſtanders bidden ſo to do in the *French* Tongue, in theſe words: *Riez, Perroquet, riez*; that is, *Laugh, Parrot, laugh*. Yea, which was more wonderful, it would preſently add in the *French* Tongue, as if it had been endued with reaſon, but doubtleſs ſo taught, *O le grand ſot, qui me faict rire*; that is, O great fool, who makes me laugh: And was wont to repeat thoſe words twice or thrice. But among others I ſaw one of thoſe great ones in the houſe of the illuſtrious Lady, *Mary* of *Bremen*, Dutcheſs of *Croy* and *Areſchot*, of happy memory, before ſhe went out of *Holland*, the like whereto for variety and elegancy of colours, I do not remember to have ever ſeen. For though almoſt all the feathers covering the body were red, yet the feathers of the Tail (which were very long) were partly red, and partly blue; but thoſe on the Back and Wings parti-coloured of yellow, red, and green, with a mixture alſo of blue. Its Head about the Eyes was white and varied with waved black lines, like the Head of the *Canida*. I do not remember the like Parrot deſcribed in any Author. Moreover, this Bird was ſo in love with *Anna* the Dutcheſſes Neece, now Counteſs of *Meghen*, and * Baroneſs of *Grosbeke*, that where ever ſhe walked about the Room it would follow her, and if it ſaw any one touch her cloaths, would ſtrike at him with its Bill; ſo that it ſeemed to be poſſeſſed with a ſpirit of jealouſie. That *Parrot* of the greater kind, called

* The Latine word is *Domina*, Lady.

called by the *Braſilians Arat*, as *Lerius* writes, muſt needs alſo be a very handſom one. For he ſaith, that the prime feathers of the Wings and Tail (which are a foot and half long) are half Scarlet-coloured, half of an elegant blue; the ſhaft or Nerve which cuts the feather through the middle long-ways diſtinguiſhing thoſe colours [that is, each feather being on one ſide the ſhaft blue, on the other ſide red] but that the reſt of the feathers of the whole body are altogether blue. He adds, that both thoſe ſorts of greater *Parrots*, viz. *Arat* and *Canide*, were in great eſteem among the *Braſilians*, becauſe they pluckt their feathers three or four times a year, to make Clothes, Caps, Bucklers, and Curtains: And though they are not kept tame, yet are they wont more to frequent and abide in great trees in the middle of the Villages than in Woods. Beſides, thoſe two huge ones, the ſame *Lerius* reports, that there are found three or four ſorts of *Parrots* among the *Braſilians*. The *firſt*, of thoſe great and thick-bodied ones, which the *Tououpinambourii*, a people of *Braſil*, call *Aicurous*, having its head adorned with feathers particoloured of yellow, red, and violet, the ends of the Wings of a lovely red, and the feathers of the Tail long and yellow; the reſt of the body being wholly green: That this kind is ſeldom tranſported into forein Countries; and yet there is none that may more eaſily and perfectly be taught to ſpeak. He adds further, that a certain *Braſilian* woman, living in a Village two miles diſtant from the Iſland, in which he with other *Frenchmen* dwelt, had a *Parrot* of this kind, which ſhe made much of; which ſeemed to be endued with that underſtanding and reaſon, that it could diſcern and comprehend whatever ſhe ſaid who brought it up. For, ſaith he, walking forth ſometimes to refreſh our ſelves as far as that Village, when we paſſed by that womans houſe, ſhe was wont to call upon us in theſe words, *Will you give me a Comb, or a Looking-glaſs, and I will preſently make my Parrot ſing and dance before you?* If we agreed to her requeſt, as ſoon as ſhe had pronounced ſome words to the Bird, it began not only to leap upon the Perch on which it ſtood, but alſo to talk and whiſtle, and imitate the ſhoutings and exclamations of the *Braſilians*, when they prepare themſelves for the battel. In brief when it came into its Dames mind to bid it ſing, it ſang, to bid it leap, it leapt: But if taking it ill, that ſhe had not obtained what ſhe asked, ſhe ſaid to the bird *Auge*, that is, be ſtill or ſilent: It ſtood ſtill, and held its peace; neither could we by any means provoke it to move either foot or tongue. The ſecond kind is called by the *Braſilians Marganas*, and is like thoſe *Parrots* that are wont to be brought into *Europe*; of no great account among them, by reaſon of their multitude or abundance, they being not leſs frequent there, than *Pigeons* with us. The third ſort of *Parrots*, called by them *Tovis*, are not greater than a *Starling*, and have their whole body covered with feathers of a deep green: But the feathers of the Tail (which are very long) have a mixture of yellow. He added further, that he had obſerved, that the *Parrots* of that Country did not build Neſts hanging down on the boughs or twigs of trees, as ſome by their Topographical Tables would perſuade us; but in the hollows of trees, of an orbicular figure, ſufficiently hard and firm. Then *Cluſius* tells us that he ſaw *Parrots* brought from *Fernambuco* of the *Braſilians*, not exceeding the bigneſs of a *Stare*, covered with feathers wholly of a green colour, but all having a ſhort Tail, and white Bill: and they who brought them over reported, that this kind was very noxious to fruit: That they fed them by the way with grains of *Maiz*, that is, *Indian* Wheat. In the ſecond Voyage the *Hollanders* made into the *Eaſt Indies*, in *Java* and certain neighbouring Iſlands, they obſerved *Parrots* far more elegant than thoſe they were wont to bring out of *Braſil*, and they underſtood that they were called *Noyras* by the *Portugues* that frequented *Java* and the *Moluccas*: That they were not very big-bodied, but of ſo elegant a colour, that they thought more beautiful could not be painted by the hand of Man. For the Breaſt and Belly were covered with feathers of a florid, ſhining red colour; the Back with golden-coloured Plumes; the Wings adorned with feathers particoloured of green and blue: Underneath the Wings the feathers were of a lovely ſhining red. But that the price of thoſe birds there was very great; ſo that they were not rated at leſs than eight or ten *German* Dollars. *Linſcotius* writes, that the *Portugues* had often made trial to bring over of them to *Lisbon*, but could never effect it, becauſe they were too tender and delicate. But the *Hollanders* with a great deal of care and induſtry brought one alive as far as *Amſterdam*, which though it were not of the choiceſt, yet might have been ſold for one hundred and ſeventy Florens or Gilders of that Province, that is ſomewhat more than ſeventy Dollars, as I find recorded in the Diary of that Voyage. That bird by the way had learned to pronounce many *Holland* words, which it had heard of the Mariners, and its Maſter had made it

ſo

ſo tame, that it would put its Bill into his Mouth and Ears without doing him any harm, and would put in order the hairs of his beard if diſcompoſed: And if any one elſe offered to touch him, it would preſently ſnap or peck at him, as if it had been ſome Dog. Furthermore (ſaith he) in the year of Chriſt 1605. *Jacob Plateau* ſent me the figure of a certain *Parrot*, drawn to the life in colours, the like whereto ſeeing I have not as yet ſeen, nor remember to have met with any where deſcribed, I thought fit to ſubjoyn the figure of it Printed, in this *Auctarium* to my Hiſtory of Exotics. He wrote that he had kept it above two years, that it was of the bigneſs of a *Pigeon:* That it had a Head almoſt like a *Hawks*, to wit, covered with ſuch coloured feathers: Sparkling Eyes. The Neck and Breaſt were beſet with particoloured feathers; which when it was angry, or any one moleſted it, by bringing any Animal near to the Cage in which it was ſhut up, it would ſet an end, ſo that it ſeemed to be in a manner creſted. Thoſe feathers were of a reddiſh colour, and in the outward part, [I ſuppoſe he means round the borders or edges] of a moſt elegant blue. The feathers of the Belly were almoſt of like colour, yet moreover clouded with dusky. The feathers of the Back were green, and the maſter-feathers of the Wings bluiſh. The Tail was compoſed of many green feathers, but not long. I could not neglect to propoſe to the Readers view a ſmall ſort of *Parrot*, brought theſe laſt years from *Æthiopia* and the places bordering on *Manicongo*, by the *Holland* Skippers, with the figure of the Male, (but the Female is much more elegant, for there was one brought of both Sexes.) The bulk of the body was equal in bigneſs to a *Chaffinch*: That is, was two inches and an half long from the bottom of the Neck to the Rump. All the feathers covering the body were of a green colour; among which yet there appeared a manifeſt difference: For thoſe on the Back were deeper coloured; thoſe on the Belly paler. The flag-feathers of the Wings were three inches long; and though on the upper ſide; on that ſide the ſhaft which hath the ſhorter *Villi*, as far as they cover one another, they were tinctured with a deep green; yet on the other ſide which hath longer *Villi*, and on all the under-ſide they were dusky or brown. The feathers of the Tail were moſt elegant, well nigh two inches long, little leſs than half an inch broad, on that part next the Rump of a green colour mingled with yellow, next of an elegant red, then of a black, and laſt of all of a green. And theſe three laſt colours were diſtinct from one another, as is to be ſeen in the Tail-feathers of ſome green *Parrots*, of the great kind [called *Maccaws*.] But theſe feathers are ſcarcely ſeen unleſs when ſhe ſpreads her Tail, becauſe they are covered with others of the ſame length, which are wholly green. The Neck is ſhort and thick: The feathers covering the Head very ſhort and green; except thoſe on the crown above the Bill, and on the whole throat, for they are of a lovely florid red colour. I ſpeak of the Male, for the feathers of the Female were of a paler red, and did not take up ſo large a ſpace as in the Male. The Eyes were very black, the Bill thick and ſtrong; the upper Chap hooked and ſharp-pointed, as in other ſorts of *Parrots*: Its colour reddiſh. The Legs ſhort, ſcarce attaining the length of half an inch, covered with aſh-coloured ſcales, as the feet of other common *Parrots*, and thoſe divided into four Toes; of which two ſtood forward, and were of unequal length, two backward, and they alſo unequal: The ſhorter, which were the inner, having two joynts, the longer; which were the outer, three. The Claws were white, and of a good length. I obſerved it to have a very ſmall voice, and only to peep like a Chicken. It delights in company. When it eats, it doth not hold its meat in one foot, like other *Parrots*, but picks up its meat with its Bill by jobbing: But its meat for the moſt part is *Canary ſeed*; for I obſerved it to feed more willingly upon that than any other kind of Seed. I ſaw ſome that were ſo taught that they would pick up crums of bread dipt or moiſtned with water. Its drink is water. I obſerved further in this bird, that the Females, when they grew old, would ſcarce eat any meat, but what had been pickt up by the Male, and kept a while in his Crop, and there mollified or macerated; the which they received with their Bills, as young Pigeons are wont to be fed and nouriſhed by the old ones.

§. VII.

§. VII.

* Bontius *his small Parrakeet.*

IT is of the bigneſs of a *Lark*, hath a hooked Bill, grey of colour, as is alſo the throat; black Eyes, encompaſſed with a ſilver circle [I ſuppoſe he means the *Iris.*] The Tongue is like a *Parrots* with ſolid ligaments. It can ſet up ſpecious feathers on the crown of its Head like a Creſt. Its Legs and Feet are of an aſh-colour. It hath a very long Tail, reaching about ten inches beyond the ends of the Wings. Both the Belly underneath, and alſo the Head, Neck, and Tail above are of a beautiful red colour: But the Breaſt and lower feathers of the Tail are of a pale roſe-colour, which [Tail-feathers] end in a lovely blue, or colour mingled of white and green. The Wings are chiefly green, but interwoven with red feathers, the one half whereof is ſo variegated on each ſide with yellow and roſe colour, that expoſed to the Sun it repreſents a thouſand varieties of ſhining colours, and can hardly be expreſſed by a Painter: So that this bird deſerves to be highly prized by great perſons.

Theſe *Parrots* are found chiefly in the midland Countries: They rooſt and build on the higheſt trees. They fly in companies, and with a great noiſe, as doth the whole tribe of *Parrots*. They are alſo garrulous, and learn to pronounce ſome words if they be kept tame.

§. VIII.

* Marggravius *his Braſilian* Ani *of kin to the Parrots.*

THis Bird is of the bigneſs of a *Throſtle* or *Mavis*, wholly black, Wings, Bill, Eyes, and Feet. It hath a long, erect Tail, of ſix inches length. Its Bill is high, broad, an inch long or ſomething more; the lower part almoſt ſtreight, the upper high, broad, of a ſemilunar figure and compreſſed, ſo that above it is almoſt edged. The Legs and Feet ſlender. It hath four Toes, two ſtanding forwards, two backwards, after the manner or *Parrots*. It cries with a loud voice, in one tone yiiiiy, in the middle more elevated. They are frequent in all Woods, but not good to eat.

THE

THE SECOND PART OF THE FIRST BOOK.

Of Birds with ſtreighter or leſs hooked Bills.

The First Section.

Of Greater Birds.

Chap. I.

Birds with thick, ſtreight, and large Bills.

These either feed indifferently upon Inſects and Fruit, ſome of them alſo are carnivorous and rapacious, being very greedy of dead Carkaſſes and Carrion; or upon Inſects only. The firſt may be divided into ſuch whoſe body is for the moſt part of one colour, and that black, which we call the *Crow-kind*: Or ſuch whoſe body is particoloured, and who chatter much, *viz.* the *Pie-kind*. Of thoſe which feed upon Inſects only there is but one family, to wit, *Wood-peckers*. Yet the Reader is to take notice, that when we affirm *Woodpeckers* to feed only upon Inſects, we underſtand *Woodpeckers* properly and ſtrictly ſo called: For there are ſome birds which we have referred to this *Genus* of *Woodpeckers* largely taken, which feed alſo upon fruit, as for example, the *Nuthatch*, *Wall-creeper*, &c.

Chap. II.

Birds of the Crow-kind.

§. I.

The Raven, called in Latine Corvus, *in Greek* Κόραξ.

The Bird we deſcribed weighed two pounds and two ounces: Its length from the tip of the Bill to the end of the Tail was two feet and one inch. The diſtance between the extremities of the Wings extended was four feet and half an inch. The Bill long, thick, ſharp, and very black: The upper Chap ſomething hooked, but not ſo as in *Hawks*, the lower ſtreight: The Tongue broad, cleft at the tip, rough, and black underneath. The *Iris* of the Eye or ring encircling the Pupil conſiſts as it were of a double circle, the exteriour being of a light cinereous or aſh-colour, the interiour of a dark cinereous. Black hairs or briſtles bending from the Head downwards cover the Noſthrils. The Plumage is black all over the body, having a blue ſplendour or gloſs; which is ſeen eſpecially in the Tail and Wings. The Belly is ſomething paler, inclining to brown. On the middle of the Back grow only downy feathers: For the Back is covered with thoſe long feathers that ſpring from the ſhoulders, as in many other birds. The number of prime feathers in each Wing is twenty, of which the firſt is ſhorter than the ſecond, the ſecond than the third, and that than the fourth, which is the longeſt of all. In all from the ſixth to the eighteenth the ſhaft extends further than the Vanes, and ends in a ſharp point.

Its weight, length and breadth,

The Bill, Tongue, Eye.

Noſthrils, Colour of the feathers.

The Prime Wing-feathers or quils.

The Tail. The Tail is about nine inches long, made up of twelve feathers, the exteriour being gradually somewhat shorter than the interiour.

The Claws and Toes, It hath large crooked Claws, especially those of the back-toes. The outmost fore-toe is joyned to the middlemost from the divarication to the first joynt.

Entrails. The Liver is divided into two Lobes. It hath a large Gall sticking to the Guts. The length of the Guts is forty three inches; of the blind-guts one inch.

Its Food. The Gullet below the Bill is dilated into a kind of bag, wherein she brings meat to feed her Young. The stomach within is wrinkled. The *Raven* feeds not only upon Fruits and Insects, but also upon the Carkasses of beasts, birds, and fishes; moreover, it sets upon, kills, and devours living birds, after the manner of *Hawks*.

White Ravens. We have seen one or two milk-white *Ravens*: *Aldrovandus* mentions divers; and saith that they are often found in *England*: But without doubt he was mistaken or misinformed; for they are seldom seen among us; insomuch that they are carried up and down to be shewn for money. I rather think, that they are found in those Mountainous or Northern Countries, which are for the greatest part of the year covered with snow: Where also many other Animals change their native colours, and become white, as *Bears*, *Foxes*, *Hares*, *Blackbirds*, &c. whether it proceeds from the force of the imagination heightned by the constant intuition of Snow, or from the cold of the Climate, occasioning such a languishing of colour; as we see in old Age, when the natural heat decays, the hair grows grey, and at last white.

Ravens reclaimed for fowling. They say that a *Raven* may be reclaimed and trained up for fowling, after the manner of a Hawk.

The place. *Ravens* are found not only in one part or Region of the World, but abound in all Countries: Do easily bear all changes of weather, fearing neither heat nor cold, enduring well to abide and live where-ever there is plenty of meat for them. And though they are said to love solitude; yet do they very often live and build in the midst of the most populous Cities, as *Aldrovandus* delivers, and experience confirms. They build in high Trees, or old Towers, in the beginning of *March* with us in *England*, and sometimes sooner. They lay four or five, and sometimes six Eggs before they begin to sit. Their Eggs are of a pale greenish blue, full of black spots and lines.

Their longevity. What is reported by *Hesiod* and others of the Ancients, of the long lives of *Ravens* is without doubt fabulous. But that all Birds in general compared with Quadrupeds are long-lived we have already proved by divers examples in several kinds: And that *Ravens* are in the number of the longest lived we will not deny.

§. II.

The common or carrion Crow, Cornix.

Its weight, length, and breadth. THe Cock, which we described, weighed twenty two ounces [another but twenty.] Its length from the tip of the Bill to the end of the Feet was eighteen inches and an half, to the end of the Tail about an inch more: Its breadth between the extremities of the Wings spread two feet and two inches.

Bill, Tongue, Eyes, Nosthrils, Colour. The Bill strong, thick, streight, from the tip to the Angles of the Mouth two inches and almost an half long; the lower Mandible being somewhat the shorter: The Tongue cleft, and as it were jagged or torn. The Eyes great, having *Irides* of a Hazel colour. The Nosthrils round, covered with black bristles reflected toward the end of the Bill. The Plumage of the whole body is black, only the ground or bottom of the feathers of a Lead or dark ash-colour.

The Wing-feathers or Quils. The beam-feathers are in number twenty in each Wing; whereof the first is shorter than the second, the second than the third, that than the fourth, which is the longest of all, being by measure ten inches three quarters: The inner of these feathers end in sharp points.

Tail, The Tail was seven inches and an half long, composed of twelve feathers of equal length.

Feet and Claws. The Legs and Feet black: The Claws black and strong: The outmost fore-toe is joyned to the middle one from the bottom as far as the first joynt.

Bowels and entrails. The Liver divided into two Lobes; of which the right is the greater. It hath a large Gall, which empties it self by a double channel into the Guts. The Muscles of the stomach are but small. The Guts have many revolutions: The blind's no more than half an inch long. Scarce any foot-step to be found of the* *Ductus intestinalis.* [channel conveying the Yolk to the Guts.]

This

This Bird delights to feed upon Carrion, that is the Carkaſſes of dead Animals when they begin to putrefie. Neither doth it feed only upon Carrion, but alſo ſet upon, kill, and devour living birds, in like manner as the *Raven:* Moreover, it eats Grain and all ſorts of Inſects in *England* at leaſt. For beyond Seas they ſay it meddles with no kind of Grain. Its Food.

This kind of Bird abounds with us in *Britain*, as *Cardan* and *Turner* truly obſerve, becauſe here is plenty of food for them. They build upon high trees, and lay four or five Eggs at a time, like *Ravens*, but leſs. They are very noiſom to Lambs new-yeaned if they be weak and feeble, firſt picking out their eyes. They are ſaid to have a very ſagacious ſent, ſo that it is difficult to ſhoot them, they ſmelling the Gun-powder at a great diſtance. Its place. Where it builds.

Ravens, *Crows*, &c. rooſt (as they ſay) upon trees with their Bills directed toward the Sun-riſing.

That the Crow it ſelf (ſaith *Aldrovandus*) is capable of humane ſpeech, and hath been taught to pronounce ſeveral words, both we our ſelves do certainly know, and *Pliny*, a Witneſs beyond exception, teſtifieth, writing thus: *There was alſo in the City of* Rome, *whileſt I was recording theſe things, a Crow belonging to a Roman Gentleman, brought out of* Bætica, *firſt admirable for its colour, which was exceeding black, then pronouncing many words in connexion, and ſtill learning more and more.* As for its pace, it is reckoned among thoſe birds which neither run, nor leap, but walk. *Aldrovandus.* Crows taught to ſpeak.

The Females only ſit, and that diligently, the Males in the mean time bring them food, as *Ariſtotle* ſaith. In moſt other birds which pair together, the Male and Female ſit by turns. *They do not* (ſaith *Aldrovandus*) *as I hear, feed their Young till they begin to be feathered*; the ſame alſo is reported of *Ravens*, and many other birds that are much on the Wing. You will ſay, wherewithal are they nouriſhed in the mean time, and how do they grow? I anſwer, with the Yolk of the Egg remaining in the Belly after excluſion. For we have elſewhere ſhewn, that a good part of the Yolk is received into the cavity of the belly in birds newly hatched, which being by degrees conveyed into the Guts by a certain paſſage called by us *ductus inteſtinalis*, ſerves to nouriſh the Young newly excluded. Their manner of incubation. They feed not their young newly hatched.

§. III.

Cornix frugivora ſeu frugilega: The Rook.

IT weighed nineteen ounces: Its length from the tip of the Bill to the end of the Tail was twenty inches, to the end of the Claws eighteen. The breadth or diſtance between the tips of the Wings extended thirty eight inches. It hath no Craw, but inſtead thereof the Gullet below the Bill is dilated into a kind of bag, wherein it brings meat to feed its Young. Its weight and meaſures.

In the old ones of this ſort the feathers about the root of the Bill as far as the Eyes are worn off, by often thruſting the Bill into the ground, to fetch out Earth-worms, *&c.* So that the fleſh thereabouts is bare, and appears of a whitiſh colour: By which note this bird may be diſtinguiſhed from the common *Crow*. Howbeit the Bill it ſelf is not white, as *Bellonius* writes, and others believe. It differs alſo from the *Crow*, 2. In that it is ſomewhat bigger: 3. In the purple ſplendour or gloſs of its feathers: 4. In that it is gregarious, both flying and breeding in company. The Bill. How it differs from the Crow.

The number of beam-feathers in each Wing is twenty, of which the fourth is the longeſt, being by meaſure ten inches and a quarter. The ſhafts of the middle Wing-feathers end in briſtles or ſpines. The Tail is ſeven inches and an half long, made up of twelve feathers; the exteriour whereof are a little ſhorter than the middle ones. The Wing-feathers or Quils. The Tail,

The Bill from the tip to the Angles of the mouth is two inches and an half long. The Noſtrils round: The Tongue black, horny, and cloven at the end. The hind-toe hath a large ſtrong Claw. The outmoſt fore-toe is joyned to the middlemoſt, as in the *Crow*. Bill, Noſthrils, Tongue, Toes.

It hath a large Gall; ſhort blind-guts like the *Crow*, of about half an inch. The ſtomach is great and muſculous as in granivorous birds: The Guts wide and variouſly reflected. They are moſt greedy of Corn, yet feed alſo upon *Earth-worms* and other Inſects, refraining from garbage and carrion. The Guts and Entrails. Its Food.

Manner of breeding. They build many together upon high trees about Gentlemens houſes, who are much delighted with the noiſe they make in breeding time. Both Cock and Hen ſit by turns.

Eggs. Their Eggs are like *Crows*, but leſſer, ſpotted with greater ſpots, eſpecially about the blunt end.

I have been told by a worthy Gentleman of *Suſſex*, who himſelf obſerved it, that when *Rooks* build, one of the Pair always ſits by to watch the Neſt, till it be finiſhed, whilſt the other goes about to fetch materials. Elſe if both go, and leave the Neſt unfiniſhed, (as ſometimes they venture to do) their fellow-Rooks ere they return again, will have rob'd and carried away to their ſeveral Neſts all their ſticks, and whatever elſe they had got together. Hence perhaps the word *Rooking* with us is uſed for cheating or abuſing.

How to fright them away. Theſe Birds are noiſome to Corn and Grain: So that the Husbandmen are forced to employ Children with hooting, and Crackers, and Rattles of Metal, and finally, with throwing of ſtones to ſcare them away. Such as have no Servants or Children to ſpare for ſuch a purpoſe, make uſe of other devices; either of Mills made with Sails, to be turned by the Wind, making a continual ſnapping as they turn, wherewith they fright the birds, or of Bugbears, or (as we call them) Scare-Crows placed up and down the fields, and dreſſed up in a Country habit, which the birds taking for Country men dare not come near the grounds where they ſtand.

I was alſo told by the fore-mentioned Gentleman, that if *Rooks* infeſt your Corn, they will be more terrified by taking a *Rook* and plucking it limb from limb in their ſight, and then caſting the ſeveral limbs about your field, than if you hang up half a dozen dead *Rooks* in it.

§. IV.

The Royſton Crow. Cornix cinerea frugilega.

Its weight and meaſures. THat we deſcribed weighed about twenty two ounces. Its meaſures were from the point of the Bill to the end of the Tail twenty two inches; to the Angles of the mouth two inches and an half: Between the Wings extended, three feet and three inches.

Its Bill, The Bill long, ſtrong, ſmooth, black, but having the tip whitiſh; the upper Chap

Noſtrils, ſomewhat longer than the lower, and a little bowed or crooked. The Noſthrils round,

Tongue, covered with briſtly hairs. The Tongue broad, black, a little cloven, and rough on

Eyes. the ſides. The *Irides* of the Eyes of a cinereous Hazel colour.

The colour of its feathers. The Head, Wings, and Throat, as far as the Breaſt-bone black, with a certain blue gloſs: The Breaſt, Belly, Back, and Neck cinereous or grey, the ſhafts of the feathers being blackiſh. The feathers on the Throat where the black and cinereous meet have their exteriour ſides cinereous, and their interiour black. The Back is of ſomewhat a darker aſh-colour than the Belly.

The quils or prime Wing-feathers. It hath in each Wing twenty maſter-feathers, of which the firſt is the ſhorteſt, the third, fourth, and fifth equal. From the ſixth the ſhafts being produced above the

The Tail. feathers, end in ſharp points. The Tail conſiſts of twelve feathers, the exteriour whereof were gradually ſomething ſhorter than the interiour to the middlemoſt, which were ſeven inches and an half long.

The Toes and Claws. The back-toe and Claw are large: The exteriour and interiour fore-toes equal, and their Claws reach as far as the root of the Claw of the middle Toe. The outmoſt and middle Toe are joyned at the bottom as in the *Crow*.

Its Entrails, Food, The Liver is divided into two Lobes: The Stomach or Gizzard large, and in that we diſſected was full of Wheat, Barley, and other Grain. It is infeſted with Lice and Ticks.

Place. In Summer time (ſaith *Aldrovandus*) it lives in high Mountains, where it alſo builds: In the Winter (compelled as is likely by the cold) it deſcends into the Plains. On the Heaths about *Newmarket*, *Royſton*, and elſewhere in *Cambridge-ſhire*, it is frequently ſeen in Winter time.

§. V.

§. V.

The Jack-daw, Monedula.

IT weighed nine ounces and an half; being in length from the tip of the Bill to the end of the Tail thirteen inches and an half, in breadth between the tips of the Wings ſpread two feet four inches and an half. The Bill is ſtrong, from the point to the Angles of the mouth an inch and a quarter long. The Noſthrils round. Little hairy feathers cover the Noſthrils, and half the Bill: The Tongue cloven; the *Irides* of the Eyes whitiſh; the Ears large.

Its weight, length, and breadth. The Bill. Noſthrils, Tongue, Eyes.

The hinder part of the Head as far as the middle of the Neck inclines to an aſh-colour, as alſo the Breaſt and Belly, but leſs; elſe the whole Plumage is black with a kind of blue gloſs: the fore-part of the Head is of a deeper black.

Colour of the feathers.

The number of prime feathers in each Wing is twenty: Of which the firſt is ſhorter by half than the ſecond, the third and fourth the longeſt of all. From the eleventh, the ſix following have the tops of their Vanes ſo running forth on each ſide above their ſhafts, that theſe feathers ſeem to be * crenate in their tops; and from the Angle of that notch the ſhaft of the feather is continued in form of a briſtle. The number of Tail-feathers is twelve, whereof the exteriour are ſomewhat ſhorter. The length of the Tail five inches and an half.

Prime Wing-feathers or quils. * Notched. The Tail.

The back-toe and Claw greater than in other birds is uſual. The outmoſt fore-toe joyned to the middlemoſt at the bottom, as in the reſt of this kind.

The Toes and Claws.

It hath no Craw: The ſtomach is muſculous: The length of the Guts was twenty four inches. It feeds upon Nuts, Fruits, Seeds, and Inſects. The Appendices or blind Guts ſmall, and ſcarce an inch long.

Its Entrails, Food.

The Head of this Bird, in reſpect of its body, is great; which argues him to be ingenious and crafty; which is found true by experience.

Jackdaws ingenious.

Jackdaws uſually frequent and build in ancient Caſtles, Towers, Houſes, and Stone-walls, eſpecially if they be deſolate and ruinous, in great numbers. They build alſo ſometimes in Trees, as we can teſtifie upon our own experience, though *Aldrovandus* be unwilling to believe it. They lay five or ſix Eggs, leſſer, paler, and having fewer ſpots than thoſe of Crows.

Where it haunts and breeds. Eggs.

Aldrovandus makes the Latine *Graculus*, which anſwers to the Greek Κολοιὸς, a common or general name, containing under it four *Species*, *viz.* the *Coracias* or Chough, the *Lupus* or Jackdaw, the *Scurra* or [illegible] and the *Graculus palmipes* or Shag. But the words Κολοιὸς and *Graculus* are ſometimes appropriated to the *Jackdaw*, as he acknowledges.

The names.

Beſides the common *Jackdaw* we have now deſcribed, *Aldrovandus* ſets forth a figure of another, differing from this, only in that it hath a white ring about its neck. *Geſner* alſo writes from the report of others, that about *Zug* in *Switzerland* there is found a *Jackdaw* diſtinguiſhed from the common by a ring of white encompaſſing his neck. As for that Species of Daw [*Graculus*] in *Rhætia* known by the name of *Tulla*, which *Geſner* alſo mentions, having a blue head; he giving us no other notes of it, I cannot tell what to determine concerning it. The Vulgar and ignorant Fowlers love to tell wonders, and amplifie things, and therefore their relations are not much to be confided in. What *Geſner* delivers of his own ſight or knowledge, I readily believe and accept for true, he being an Author of great judgment, and no leſs fidelity and integrity: But what he hath from the relation of others I do often ſuſpect. Beſides it is to be obſerved, that ſhort, rude, imperfect, and general deſcriptions, made by ſuch as were not practiſed and skilful in deſcribing and obſerving the certain and characteriſtic notes of each Species, have occaſioned great confuſion, and multiplication of more kinds of birds and other Creatures than Nature hath produced.

The *Ring-Jackdaw*.

§. VI.

The Corniſh Chough, Coracias ſeu Pyrrhocorax.

Its weight and meaſures.

THe Female weighed twelve ounces and an half, the Male thirteen. The length from the point of the Bill to the end of the Feet ſixteen inches and an half, to the end of the Tail ſeventeen. The Wings ſpread were thirty three inches and an half wide.

How it differs from the *Jackdaw*.

It is like a *Jackdaw*, but bigger, and almoſt equal to a *Crow*. It differs chiefly from the *Jackdaw* in the Bill, which is longer, red, ſharp, a little bowed or crooked: The upper Mandible being ſomething longer than the lower. The Noſthrils round: The Tongue broad, thin, and a little cloven, ſhorter than the Bill. The ſides of the fiſſures of the Palate and Windpipe and of the root of the Tongue are rough, and as it were hairy. Feathers reflected downwards cover the Noſthrils. The Feet and Legs are like thoſe of a *Jackdaw*, but red of colour. The Plumage of the whole body all over is black.

Its Bill, Noſthrils, Tongue, Palate.

The Feet.

The colour of the feathers.

The prime Wing-feathers.

The number of prime feathers in each Wing is twenty: Of which the firſt is ſhorter than the ſecond, that than the third, the third than the fourth, which is the longeſt of all, being by meaſure ten inches and an half. The Wings complicated extend as far as the end of the Tail. The Tail-feathers are in number twelve, all equal, or if any difference be, the middle a little the longer, as in the reſt of this kind, being by meaſure $5\frac{3}{8}$ inches.

The Tail.

The Entrails.

The Liver was divided into two Lobes, of which the left was the leſs: The Spleen long, ſoft, and round: The Stomach fleſhy, and full of Inſects.

Its place.

It frequents Rocks, old Caſtles, and Churches by the Sea-ſide. It is found not only in *Cornwal*, but alſo in *Wales* and all along the Weſtern Coaſt of *England*, about the Cliffs and Rocks near the Sea. Its Voice is like that of the common *Jackdaw*, but more hoarſe.

Pyrrhocorax and *Coracias* the ſame.

Aldrovandus will needs have the *Pyrrhocorax* to be a different bird from the *Coracias*, following therein *Ariſtotle*. *Bellonius* makes theſe names *Synonyma* of the ſame bird; we muſt needs confeſs, that if there be ſuch a bird as *Aldrovandus* deſcribes v. g. leſs than a *Crow*, equal to a *Jackdaw* having yellow Bill and Feet, it is diſtinct from our *Chough*. But I am ſure the Bird frequent on our Weſtern Shores, and commonly known by the name of the *Corniſh Chough*, is that which *Bellonius* and *Turner* make to be the *Pyrrhocorax*, and hath red Legs and Feet. Wherefore I take the *Coracias* and *Pyrrhocorax* of *Geſner* and *Aldrovandus* to be one and the ſame bird, notwithſtanding the Bill and Legs in this are ſaid to be yellow; which perchance may be ſo in the *Coracias* or *Chough* when young.

§. VII.

Bontius *his Indian Raven.*

THere is a ſtrange kind of *Raven* in the *Molucca* Iſlands, and eſpecially in *Banda*, which reſembles our Country *Raven* in the Bill; but in the Temples is coloured like thoſe * *Meleagrides* which the *Low Dutch* call *Kalcoutſe hanen*. It hath a great thick Bill, a little pointed, and made for Rapine; wide Noſthrils; great, black, ill-favoured Eyes: The Head and Neck long, decently covered or adorned with blackiſh feathers. Its Feet and Toes ſtrong, armed with long, crooked, and very hard or ſolid Claws. It walks after the manner of our *Raven*: But differs from it in nature and diſpoſition; in that it feeds not upon Carrion or dead Carkaſſes, but chiefly upon *Nutmegs*, of which it is very greedy, making great deſtruction of that fruit, to the no ſmall detriment of the Owners. Its fleſh is very delicate, and being roaſted hath a plain aromatical relliſh, contracted from its food.

* Birds of the Turkey kind.

§. VIII.

* *The horned Indian Raven* or Topau, *called the Rhinocerot Bird.*

* *Corvus Indicus cornutus seu Rhinoceros avis* Bontii, Aldrov.

THis horned Bird as it casts a strong smell, so it hath a foul look, much exceeding the *European Raven* in bigness. It hath a thick Head and Neck, great Eyes; the Bill but moderate in respect of the body: The longer and more acuminate part bending downward argues the Bill to be made and designed for rapine: But the upper part, which is shorter, thicker, and bending upward doth resemble a true Horn, both to the sight and touch: The one moity whereof, *viz.* that toward the Head, is * contiguous to the Bill, so that both together after the same manner grow to [or rather spring out of] the end of the Head: The other moity is separate from the Bill, bending the contrary way, *viz.* upwards, so that * they seem to be like the forked tail of a Fish. It lives upon Carrion and Garbage, *i.e.* the carkasses and Entrails of Animal.

* Rather continuous.

* The bill and horn together.

Aldrovandus describes the Bill thus: It is almost twenty eight inches long, crooked, not after the manner of rapacious birds, but like a Bow. All the lower part is of a pale or whitish yellow, the upper part toward the Head of a red or Vermilion, else of the same colour with the lower. The upper Mandible only within is serrate or dented after the manner of the * *Toucan*. The horn springs out of the forehead, and grows to the upper part of the Bill, being of a great bulk, so that near the forehead it is a Palm broad; not unlike the *Rhinocerots* horn, but crooked at the tip: The colour both in the upper and lower part is Vermilion, in the middle yellow. If the rest of the parts of the body are answerable to the Head; I am of *Cardans* and *Plinies* opinion, that this Bird is bigger than an *Eagle*.

* The *Brasilian* Pie.

Of this sort of Bill we have seen three varieties, all which we have caused to be engraven and exhibited to the Readers view.

Chap. III.

Of the Pie-kind.

§. I.

The Magpie or Pianet. Pica varia caudata.

IT weighs eight or nine ounces. Its length from the tip of the Bill to the Claws is twelve inches and an half, to the end of the Tail eighteen. The Bill about an inch and half long, black, thick, and strong, the upper Chap being somewhat crooked and sharp-pointed; the Tongue cloven at the end, and blackish, like to that of a *Jay*. The sides of the fissure of the Palate rough with hair-like excrescencies. The Nosthrils round, and beset with reflected bristly hairs. Excepting the whiteness of the Breast and Wings, and the length of the Tail, this Bird is very like the *Jackdaw*. The *Irides* of the Eyes are of a pale Hazel colour. In the nictating membranes is seen a yellow spot.

Its weight and measures.

Its Bill,

Tongue,

Nosthrils.

It is like the *Jackdaw*.

The Head, Neck, Throat, Back, Rump, and lower Belly are of a black colour; the lower part of the Back near the Rump is more dilute, and inclining to cinereous. The Breast and sides are white, as also the first joynt of the Wing. The Wings are smaller than the bigness of the body would seem to require. The Tail and prime feathers of the Wings glister with very beautiful colours (but obscure) of green, purple and blue mingled, only in the exteriour Vanes. The number of beam feathers is twenty; of which the outmost is shorter by half than the second; the second also shorter than the third, and that than the fourth, but not by an equal defect; the fourth and fifth are the longest of all. The eleven foremost about their middle part, on the inside of the shaft are white, the white part from the extreme feather gradually decreasing, till in the tenth it be contracted into a great spot only.

The colour of its feathers.

The Wing-feathers.

The Tail is made up of twelve feathers, of which the two middlemost are the longest, being by measure eight and an half or nine inches; the next to them above an inch

The Tail.

inch ſhorter, and of the reſt the exteriour than the interiour in like proportion. The greateſt and longeſt, that is the middle feathers of the Tail, have their bottoms green, their middles blue, and their tops purple.

Its Feet. The Feet and Claws are black: The loweſt bone of the outmoſt fore-Toe is joyned to that of the middle.

Entrails. The length of the Guts was twenty four inches, of the blind Guts half an inch. It hath a Gall-bladder, and a long Spleen: The Stomach not very fleſhy, and having its *Echinus*.

It varies ſometimes in colour. There are ſometimes found of this kind all over white, but rarely. In the *King's Aviary* in St. *James's* Park we ſaw brown or reddiſh ones.

They may be taught to ſpeak. This Bird is eaſily taught to ſpeak, and that very plainly. We our ſelves have known many, which had learned to imitate mans voice, and ſpeak articulately with that exactneſs, that they would pronounce whole Sentences together ſo like to humane Speech, that had you not ſeen the Birds you would have ſworn it had been man that ſpoke.

Its Neſt. They build their Neſts in Trees with that Art and cunning as is admirable, fencing them round on the outſide both above and below with ſharp thorns, leaving only one hole, and that a very narrow one, for themſelves to paſs in and out. He that deſires an exact deſcription of the Neſt let him conſult *Aldrovandus*: With us in *England* they are ſo common every where, that we thought it not needful to inſiſt longer on the

Its Eggs. deſcribing of them. It lays five or ſix, and ſometimes ſeven Eggs at once, ſeldom more; greater and paler than *Crows* Eggs, and very thick ſpotted with black.

Its Food is the ſame with that of the *Jackdaw*. Its ſets upon, kills, and devours *Sparrows*, and other ſmall birds: Yea, we have ſometimes ſeen a *Magpie* ſtrike at a *Blackbird*.

§. II.

The Braſilian Pie of Aldrovandus, *lib.* 12. *cap.* 19. *The* Toucan *of* Marggrav. *and others, The* Xochitenacatl *of the Mexicans,* Nieremb.

Its bigneſs. Bill, IT is of a middle ſize between a *Pie* and a *Blackbird*. *Thevetus* reports, that the Bill is thicker and longer than almoſt the whole body beſides. The Bill is near two Palms long, and one broad, being meaſured from the beginning of the lower Chap to the end of the upper. The lower Chap where it is thickeſt, *viz.* near the Eyes, is twice as little as the upper, and near the end, where it is crooked, thrice. It is of a very thin ſubſtance like Parchment, but bony, ſhining, very light, hollow, and inwardly capable of a great deal of Air: For which reaſon I think, contrary to

It wants Noſthrils. the manner of other Birds, its wants Noſthrils: The Bill being ſo thin that the Air can eaſily penetrate it. And if Nature had made any aperture in it, it would have rendred it obnoxious to fracture. Hence alſo perchance it is, that ſhe hath furniſhed it with certain teeth, ſo diſpoſed that the Bill cannot be ſhut exactly cloſe, but eaſily admits the ingreſs of the Air. The Bill, I ſay, is ſerrate, and as it were compoſed of certain little ſcales, which may eaſily by the fingers be plucked off, [or aſunder.] The colour of the Bill is yellowiſh, more in the lower than the upper part [inwardly it is of a pleaſant red] toward the end (ſaith *Nierembergius*) of a Scarlet colour. The

Its Head. Head in proportion to the body is great and thick, as is ſutable and requiſite to ſuſtain a Bill of that length and bigneſs; black; yet the Crown, whole Back, and Wings

Eyes. ſhew ſomething of whiteneſs. The Eyes are great, placed in the middle of the Head: The Pupil very black, encompaſſed with a white circle, and that again with a yellow.

Colour. The Neck, Back, and Wings are black. The Breaſt ſhines with a moſt bright and lovely Gold or Saffron colour, with a certain redneſs near the beginning; the Belly and Thighs with a moſt beautiful Vermilion. The Tail again is black, but in the end of a notable red.

It is made ſo tame, as to ſit and hatch its Young in Houſes. *Thevetus* reports, that

Its food Pepper. this bird feeds upon Pepper, which it moſt greedily devours, gorging it ſelf therewith, ſo that it voids it again crude and unconcocted; and that the Natives make uſe

This ſtory *Faber* diſcredits becauſe none of his *American* friends ſpake a word of it. eſpecially of that Pepper, preferring it before that which is freſh gathered from the Plant, becauſe they perſuade themſelves that the ſtrength and heat of the Pepper is qualified and allayed by the Bird, ſo that afterwards it is leſs noxious. All this out of *Aldrovandus*. *Faber* ſuſpects the ſtory of the Pepper, becauſe his *American* friends, whom he conſulted about this Bird, made no mention of any ſuch thing. I ſuſpect

that

that the Toes in this Bird are disposed after the manner of the *Woodpeckers*, *viz.* two forwards, and two backwards. For such is the conformation of the Feet of the *Aracari* of *Marggrave*, a bird near of kin, and very like to this. And *Thevetus* in his figure expresses only two foretoes.

Since the writing of this, hapning to read in *John Faber* his Expositions of some Pictures of *New-Spain* Animals of *Recchus*, I found there mentioned a bird of this sort seen and described by *Carlo Antonio dal Pozzo* at *Fontain-bleau* in *France*, with its Toes so disposed as I imagined, *viz.* two forwards two backwards, as in *Woodpeckers*, to the *genus* whereof the *Toucan*, as *Faber* in this place proves, doth undoubtedly belong. For it not only hath a like situation of Toes, but also in like manner hews holes in trees to build its Nest in, as Frier *Peter Alvayſa*, and other *Indians* and *Spaniards*, who had long lived in *America*, told *Faber* for a certain truth; and *Oviedus*, in the forty third Chapter of his Summary of the History of the *West Indies* published in *Italian*, writes; adding, that he thinks there is no bird secures her young ones better from the *Monkeys*, which are very noisom to the Young of most Birds. For when she perceives the approach of those Enemies, she so settles her self in her Nest as to put her Bill out at the hole, and gives the *Monkeys* such a welcom therewith, that they presently pack away, and glad they scape so. From this quality of boring trees this Bird is by the *Spaniards* called *Carpintero*, and by the *Brasilians Tacatacа*, in imitation I suppose of the sound it makes.

Because the Bird exactly described by *Dal Pozzo*, seems to be specifically different from that of *Aldrovandus*, I shall here add his description.

It was (saith he) a little bigger than the common *Magpie*. [*Lerius* maketh it of the bigness of a *Dove*; *Oviedo*, not bigger, or but little bigger than a *Quail*.] Its Bill, which is very broad, had its upper part [or Chap] where it grew to the Head, tinctured with green, a line of green being also thence produced to the point; but its lower Chap at its setting on to the Head a blue colour. All the rest of the Bill was of a dark red, like Serpentine wood, with many intercurrent black spots and lines. *N. B.* Its Bill was empty and hollow, and upon that account very light [*Oviedo* makes it very heavy, and to weigh more than the whole body besides, which is certainly a mistake] so that it had little strength in it, neither could the bird peck or strike smartly with it. Its inside was of a Saffron-colour, but blue toward the tip.

It had a very flat thin Tongue, not much unlike those long feathers on the Neck of a *Dunghil-Cock*: This it moved up and down, and stretcht out to the length of the Bill. It was of a true flesh-colour, and which you would wonder at, fringed, as it were, on each side with very small filaments, which made it shew like a true feather. [This *Oviedus* also confirms.]

Its feathers on the Neck down to the middle of the Breast were whitish, terminating in a sooty colour; on the Head and Back blackish. Round the Eyes was a space bare of feathers, but curled with hair, of a Violet-colour, as is seen also in *Parrots*. The rest of the body was covered with feathers of a Weasel-colour [*mustelini coloris*.] It had no Tail, [having been, I suppose, plucked off] but one ready to come; the beginning whereof consisted of feathers of a dark white, particoloured with black, weasel, and Vermilion colour. It also frequently flirted up that rudiment of a Tail, as *Wrens* and *Wagtails* are wont to do.

Each foot was divided into two Toes standing forward, and two backward; above of a Violet-colour, underneath of an ash or grey.

It often hopped and leapt up and down, and cried with a voice not unlike the chattering of a *Magpie*.

It fed upon almost all the same things that *Parrots* do, but was most greedy of Grapes, which being pluckt off one by one, and tossed to it, it would most dextrously catch in the Air before they fell to the ground. The flesh of the whole body was of a deep Violet colour.

Faber doth not undeservedly enquire how, seeing the Bill is so light and thin, the Bird can pierce trees with it? Which difficulty he thus satisfies; that though it be thin and light, yet is it of a bony substance, and therefore it is not to be wondred at that, dextrously used by the living Animal, it should therewith by many repeated strokes pierce a tree, having perchance the instinct to chuse a rotten one, as we see drops of rain wear holes in Flints, nay, the very feet of *Pismires* walking often over them, as *Pliny* observes, make impressions on them. **Lerius* writes, that this Bird is of the colour of a *Raven* except the Breast, which is of a Saffron-colour, compassed beneath with a line of Vermilion; the skin of which part pluckt

* Chap. 10. of his Voyage into *Brasil*.

off the *Indians* dry, and use for an ornament of their Cheeks, gluing it on with Wax.

* *Americæ descript. lib. 15. cap. 7.* * *Hist. rerum natur. Brasiliæ, lib. 5. c. 15.*

This same Bird is described by * *John de Laet*, out of a *Portugues* Author, and out of the same by * *Marggrave*. It is of the bigness (saith he) of a *Pie* or *Dove*, hath a Crop under the Breast three or four inches broad, of a Saffron-colour, and compassed about the borders with Vermilion feathers. The Breast is yellow, the rest of the body black. One would wonder how so little a bird could carry so great a Bill, but it is exceeding light, and very tender.

We have seen in several Cabinets the Bill of this Bird, and our selves have also one of them.

§. III.

The Jay. Pica glandaria.

Its weight and measures.

IT weighed seven ounces. Its length from the point of the Bill to the end of the Tail was fourteen inches; to the end of the Feet but twelve and an half: The distance between the extremities of the Wings spread twenty one and an half.

Bill,

The Bill black, strong, from the tip to the Angles of the mouth about or near an inch and

Tongue, Eyes, Feathers, Colour.

half long: The Tongue black, thin, pellucid, and cloven at the tip: The *Irides* of the Eyes white. The feathers of the Head and Body in this bird are taller, slenderer, and stand more staring or erect than ordinary. Near the lower Chap of the Bill are two black spots, on each side one: The Chin and lower part of the Belly whitish: Else the Breast and Belly are of a colour mixt of cinereous and red. The Rump above is white: The Back red, with a certain mixture of blue: The feathers on the crown of the Head variegated with black and white.

Wing-feathers.

The Sails of the Wings are in number twenty: Of which the first is shorter by half than the second: The fourth the longest, being by measure six inches and a quarter. As for their colours, the first or outmost is black, the bottom or lower part being white, which is proper to it alone: The six next-following have their exteriour Vanes of an ash-colour; the three next likewise, but more obscure and mingled with blue, being also marked toward their bottoms with transverse black and white strokes. The five succeeding have their exteriour Vanes half white, half black, *viz.* the lower half white, the upper black, but so that each extremity of the white is terminated with blue. The sixteenth in place of the white of the four precedent hath transverse blue, black, and white spots: The seventeenth is black, having one or two blue spots: The eighteenth is black, with some little red: The nineteenth red, with the tip black. The undersides of all the feathers of the Wing are of a dark or dusky colour. The covert-feathers of the fifteen exteriour Sails are very beautiful, being variegated or chequered with black, white, and lovely shining blue lines: The rest of the covert-feathers being black.

Its Tail.

The Tail is six inches and a quarter long, consisting of twelve feathers, wholly black, except toward their roots: Under the Rump there is something of blue mingled with cinereous.

Feet and Toes.

The Feet and Toes are of a ferrugineous, dusky colour. The middle Toe is the longest, the outmost is equal to the back-toe. The lower *internodium* of the outmost Toe is joyned to the middlemost. The back Claw is greatest.

Eggs, Guts.

The Eggs are cinereous, with darker spots scarce appearing. The Guts twenty four inches long; the blind Guts but half an inch.

Gizzard.

It hath a Gall, and a long Spleen: The Stomach or Gizzard not very fleshy, and having its *Echinus*: Wherein we found

Its Food.

Acorns, &c. Yet it feeds not only on *Acorns*, (whence it got the name of *Pica glandaria*) but also upon *Cherries* (of which it is very greedy) *Goose-berries*, *Rasps*, and other fruit.

How it differs from *Aldrovands* Jay.

It differs from that described by *Aldrovandus*, in that it hath no transverse spots in the Tail.

The Female differs little or nothing from the Male either in bigness or colour, so that it is very difficult to know them asunder.

It learns to speak.

It learns to imitate mans voice, and speak articulately as well as a *Jackdaw*.

§. IV.

§. IV.

The Roller, Garrulus Argentoratensis.

THE bird we described was a Cock, and weighed six ounces. Its length from the tip of the Bill to the Claws eleven inches and an half, to the end of the Tail thirteen and an half: The breadth or distance between the tips of the Wings spread twenty six inches. Its weight and measures.

The Bill was black, sharp, something hooked, otherwise like to that of a *Jay*, from the point to the Angles of the mouth 1 ⅛ inches long. The *Irides* of the Eyes were of a pale hazel-colour. Near the Eyes, toward the hinder part of the Head, were two bunches, as it were Warts, void of feathers. The Tongue black as in *Jays*, jagged or torn, but not cloven: The roof of the mouth green, and having a double cleft or fissure. The bottom of the Palate is rugged or rough with little bunches. At the Base of the Tongue there is only a little forked excrescency on each side. The circumference of the Eyes is bare or void of feathers. Bill, Eyes. Bare Wart-like bunches. Tongue, Palate. Skin about the Eyes bare.

The Rump and lesser rows of covert feathers of the Wings are of a lovely blue or ultramarine colour (as the Painters call it.) The middle of the Back between the shoulders red: The Head of a sordid green, mingled with blue; of which colour is also the Throat, with white lines in the middle of each feather. The Breast and Belly are of a pale blue, like those of a *Pigeon*. Its Colours.

The number of Sails in each Wing is twenty, of which the first, second, and third are equal, and from the tenth all the rest. Almost all of them have their lower half blue, and the upper black. The foremost are black almost down to the bottom, only in their exteriour Webs they have a mixture of blue. The covert feathers of the Wings are of a pale blue, of which colour also, but paler are those that invest the underside of the Wing. Wing-feathers.

The Tail consists of twelve feathers, of which the ten intermediate are equal, each being four inches three quarters long: The two extreme longer than the rest by three quarters of an inch. The two middlemost are of a dark ash-colour, the next to them have their tips of a bluish white, which colour gradually increases in the rest, till in the outmost it takes up half the feather. Below the white the interiour webs of the feathers are black, and the exteriour blue: The tips of the outmost feathers are black. The tail-feathers and sails of the Wings where ever they are blackish above, are blue underneath. The outmost feather of the * *Ala notha* is black, the rest blue. Tail. * Bastard-Wing.

The Feet are short, and like those of a *Dove*, of a dirty yellow colour: The middle Toe the longest, next to that the outmost fore-toe. The Claw of the middle Toe in the inner side is edged. The Claws are black; and the Toes divided to the bottom. Feet, Toes, and Claws.

The Stomach within was of a Saffron colour, and therein we found a large Grasshopper: The Guts thirteen inches and an half long; the blind Guts two and an half. Gizzard and Guts.

We found of these Birds not only in *Germany*, but also in the Isles of *Sicily* and *Malta*, to be sold in the Markets, and in the Poulterers shops. Its place.

There are many singular and characteristic marks in this bird; as 1. The knobs or wart-like bunches under the eyes. 2. The figure of the Tail, the outmost feather on each side being longer than the rest. 3. The Toes divided down to the bottom. 4. The Tongue having only two forked *Appendices*.

* Gesners *blue Crow*; *the same I suspect with the precedent.*

The blue Crow, whose figure *Jo. Kentmannus*, sent to *Gesner*, but the History thereof *George Fabricius* out of *Misnia*; is a wild bird, and not easie to be tamed; called by the *Misnians*, * *Ein wild Holtzkrae*, of others, *Galgen-regell*, or *Halck-regel*. It is found beyond the River *Elb*, in the *Luchovian* Forest, and in the neighbouring Woods: It haunts and abides in desart and unfrequented places. Some from the colour call it *Ein Teutschen Pappagey*, that is, *The German Parrot*. It is transported into Forein Countries for no other commendation but the colour. So far *George Fabricius*. The Bill (as the Picture shews) is black: The Legs dusky, and for the proportion of the body small. It is here and there all over the body, *viz.* on the Head, * That is, a *wild Wood-Crow*.

Wings, Tail, about the Rump, and all the underside of a shining blue colour, in some places more sincere, in some mixt with green. The colour of the Back and upper side of the Neck is dusky: The greater feathers of the Wings black. *I am verily perswaded, that this bird is no other than the Strasburgh Roller.*

§. V.

* *The Sea-Pie.* Pica Marina.

Aldrovandus in the twelfth *Book* and fifteenth *Chapter* of his *Ornithology* doth thus briefly describe this bird. The whole Bird, excepting the Head, Neck, Feet, and also part of the Wings, is of a greenish colour. The Bill is strong, a little longer than a *Pies*, very sharp. The top of the Head, and down as low as a third part of the Neck, is of a delayed Chesnut colour. The lower part of the Head to the Temples and Eyes yellow. The Eyes black, with yellow *Irides*, encompassed again with a black circle. The Feet dusky; the Toes long; the Nails very crooked and black: The rest of the body green, except the second row of Wing-feathers, which are of a dilute Chesnut, having their ends blue.

Whether he himself saw this Bird, or described it from a picture, he tells us not: But in that he affirms, that the *Strasburg Roller* never lives in maritime places, and so without reason challenges the name of the *Sea-pie*, which the *Bologneſe* (as *Gesner* witnesseth) attribute to it, he is without doubt deceived: Sith we our selves (as we said before) saw at *Messina* in *Sicily*, and in the Isle of *Malta* several of them.

§. VI.

* *The Persian Pie.* Aldrovandus.

THe bird which *Aldrovandus* calls by this name, and describes from a Picture, sent him from *Venice*, hath a strong, thick, short, whitish Bill: Also white Eyes with a black Pupil. The second row of Wing-feathers, the Rump, and foremost feathers in the Tail are yellow. The Feet are bluish with black tabulary scales: The Claws small, but crooked and black: Else it is all over of a dusky colour. Besides these Dr. *Charleton* in his *Onomasticon Zoicon*, p. 68. mentions another sort of *Pie*, *viz.* * *The Indian Mock-bird*, not much unlike the *Jay*, but somewhat smaller. We have not as yet had the hap to see this bird: Nor is there any thing written of it by others, that we know of.

* *Mimus sive Picus Garrulus Indicus.*

§. VII.

Caryocatactes, Gesn. *and* Turn.

IT weighed five ounces three quarters. Its length from the Bill to the end of the Toes was thirteen inches and an half, to the end of the Tail the same. The breadth between the tips of the Wings spread twenty two inches and an half.

The Bill from the tip to the corners of the mouth is almost two inches long, black, strong, and like that of a *Pie*, save that it is not sharp pointed, but blunt at the end, and the upper Mandible a little prominent. The Tongue is short, scarce reaching beyond the Angle of the lower Mandible, cloven with a deeper incision than in any other Bird I have observed. In the lower Chap from the Angle is a wrinkle exactly equal to the fissure or cleft of the Tongue; so that the Tongue seems never to extend further, the wrinkle filling up the fissure. The bottom of the Palate and sides of the fissure therein are rough. The *Irides* of the Eyes are of a hazel colour: The Nosthrils round, and covered with whitish, bristly, reflected feathers.

The whole body, as well lower as upper side, is of a dusky red; all over, except the Head, beautified with triangular white spots in the tops of the feathers; these spots on the Breast are greater than elsewhere. The Head is not spotted at all. The upper side of the body partakes more of red. Between the Eyes and Bill it is white. The feathers under the Tail, beyond the vent are milk-white.

The sails in each Wing are about twenty, of a black or dark colour, the Tail-feathers twelve, all of equal length, being by measure four inches three quarters, except the outmost on each side, which are a little shorter. And for their colours, the outmost

outmoſt on each ſide are three quarters white, and from them the white part is gradually leſs and leſs in the ſucceeding feathers to the middlemoſt, in which it doth wholly diſappear: The reſt of the Tail-feathers is of a ſhining black.

The Feet and Claws are black: The outmoſt Toe, as in the reſt of this kind, is joyned to the middlemoſt at the bottom.

It hath a Gall; its Guts were eighteen inches long: The blind Guts half an inch: The Teſticles ſmall. It feeds on Nuts, *&c.* It hath a note or voice ſomething like a *Magpie*.

We found this Bird in the Mountainous part of *Auſtria*, near the way leading from *Vienna* to *Venice*, not far from a great Village called *Schadwyen*, where there is a very ſteep, difficult, and craggy aſcent up the neighbouring Mountains whereupon there ſtand always ready there certain Yokes of Oxen, to draw the Coaches or Waggons of ſuch as travel that way up the craggy Cliffs and Rocks, which Horſes could not at all, or with great difficulty climb and ſtruggle through, drawing a Coach after them.

§. VII.

* *The Bohemian Chatterer.* Garrulus Bohemicus, * *Aldrov.* eidem Ampelis. * *Lib.* 12. *cap.* 17.

IT is almoſt as big as a *Blackbird*, but bigger than the * *Hawfinch*. Its length from Bill-point to Tail-end nine inches: Its breadth, *viz.* the Wings being ſpread, four Palms. Whence it is manifeſt, that *Geſner* is miſtaken, in that he writes that for ſhape, and ſize of body, and colours it approaches to the common *Garrulus*. Its Bill is of a deep black, of the bigneſs of a *Houſe-Sparrows*. *Geſners* figure repreſents it too long, and too crooked. The Noſthrils are encompaſſed with hairs of the ſame colour, which make, as it were, a tranſverſe black ſpot: In which are included the Eyes, that are round, and of a moſt beautiful colour, to wit, Vermilion; reſembling that of the *Chalcedonian* Carbuncle, commonly called the *Granate*: Which perchance gave occaſion to ſome to believe that they ſhine in the Night. Its Head is after a ſort compreſſed, being by *Geſner* repreſented too round; of a Cheſnut or ferrugineous colour, adorned with a creſt or tuft, bending backward, after the manner of the *creſted Lark*. The colour of the Creſt toward the Bill is a delayed Cheſnut, but backward cinereous inclining to dusky, not unlike to the colour of * *Umber*. The Neck is ſhort, black in the fore and hind part, red on the ſides, near the Bill white. The Breaſt is of a cheſnut or ferrugineous colour, but dilute and inclining to roſie. The whole Belly is aſh-coloured, except towards the vent, where are ſome white feathers, whoſe roots or lower parts, *v. g.* from the middle to the fleſh, are black, and ſofter than their upper parts. The Back inclines to a cheſnut or bay, but toward the Rump it is cinereous or dun. The outer feathers of the Wings are black, the inner aſh-coloured, but declining to black. The outer Wing-feathers are marked with ſpots very pleaſant to behold: Some of theſe feathers, *viz.* the firſt, ſeven in number, are white, their *Appendices* being red like to Cinnabar or Vermilion. *Geſner* was told by a certain perſon, I know not who, but untruly, that theſe feathers were horny [I ſuppoſe he meant their ſhafts] Yet are they pretty hard and ſolid, long, and after a ſort Cartilagineous. To theſe ſucceed other feathers adorned in like manner with ſpots, but of a pale yellow, reſembling in ſome meaſure the figure of the Letter L: Which are ſo diſpoſed, that in ſome feathers appear ſeven, in ſome ſix, and in ſome but five only. Again, the laſt feathers have white ſpots, which by how much they are ſituate nearer the outſide, by ſo much do they become leſs conſpicuous; ſo that of the laſt feathers of all ſometimes three, ſometimes two, and ſometimes only one is ſo ſpotted. The covert feathers are alſo tipt with white. Concerning the yellow ſpots it is to be noted, that in the Females they are white, and that over againſt them are to be found other white ſpots. I have learned by inſpection, that the Tail of the Cock conſiſts of ten feathers only, the Tail of the Hen of twelve; which near their roots are of a dark cinereous or Mouſe dun, but above are black. The end of the whole Tail is yellow, but more reſplendent in the Male than in the Female. Near the vent are ſome other feathers of a Cheſnut-colour, making as it were another Tail, but far leſs. The colour of the Legs is dusky, inclining to blue. The ſhape and bigneſs of the Feet anſwer to thoſe of a * *Hawfinch*: The colour differs, being black in the *Garrulus*, fleſh or roſe-coloured in the *Hawfinch*, It hath black and crooked Claws.

* *Coccothraustes.*

* A kind of earth called *Terra umbria*, uſed by Painters.

* *Coccothraustes.*

See

See the deſcription of the Entrails and Bowels in *Aldrovandus*. This Bird is ſaid to be peculiar to *Bohemia*. It feeds upon Fruit, eſpecially Grapes, of which it is very greedy. Wherefore it ſeems to me, not without reaſon, to be called by that name [*Ampelis*.] It is a Bird of a very hot temperament, and exceedingly voracious: flies in companies, and is eaſily tamed. What elſe *Aldrovandus* hath of its diſpoſition and manners, food, flight, uſe, *&c.* See in his *Ornithology*. It is wonderful, and to me ſcarce credible, what he ſaith he learned by * ocular experience, to wit, that the Tail of the Cock is made up of ten feathers, the Tail of the Hen of twelve.

* αὐτοψία.

Chap. IV.

Of Woodpeckers in general.

TO *Woodpeckers*, if under this name we comprehend the *Nuthatch*, the *Wall-creeper*, the great *Reed-Sparrow*, and the *Ox-eye creeper*, there are very few notes common, *viz.* to climb or run up trees, ſticking to their bodies or boughs; and for that purpoſe to have ſtrong and muſculous thighs. But if we exclude the foreſaid Birds, and reſtrain the name to *Woodſpites*, properly ſo called, there are many and remarkable notes whereby they may be diſtinguiſhed from all other kinds of birds: As for example, 1. To have a ſtreight, hard, ſtrong, angular, and ſharp Bill, very fit and proper to pierce and bore holes in trees. 2. A Tongue of a very great length, round, ending in a ſharp, ſtiff, bony thorn, dented on each ſide, to ſtrike Ants, *Coſſi*, and other Inſects withal. This Tongue they can at pleaſure put forth to a great length, thruſting it deep into the crannies, holes, and clefts of trees, to ſtab and draw out Inſects lurking there. 3. Short Legs, but very ſtrong. 4. Toes ſtanding two forwards, and two backwards: Which is common to theſe and *Parrots*. Such a diſpoſition of Toes (as *Aldrovandus* rightly notes) Nature, or rather the Wiſdom of the Creator, hath granted to *Woodpeckers*, becauſe it is very convenient for the climbing of trees. Their Toes alſo are cloſe joyned together; that they may more ſtrongly and firmly lay hold on the tree they climb upon. 5. All of them, unleſs perchance you except the *Wryneck*, have a hard, ſtiff Tail, bending alſo downwards, and its feathers ends often broken, and their ſhafts almoſt bare; on which they lean, and ſo bear up themſelves in climbing. Their Tail conſiſts of but ten feathers. 6. To feed only upon Inſects. 7. To want the blind Guts, which is peculiar to this kind, agreeing to no other bird or beaſt beſide, that we know. 8. To lay white Eggs.

Whether all theſe marks agree to thoſe *American* Birds which we have ranked under this head we know not. We have referred them to this kind, for the like diſpoſition of their Toes, two forward, two backward; eſpecially ſeeing they belong neither to *Parrots* nor *Owls*.

Albertus writes that all *Woodſpites* build in the hollows of trees, which before him *Pliny* alſo hath recorded. They themſelves are ſaid to hew out for themſelves a place to build in; making ſuch an artificial hole, ſo exactly round, that the moſt skilful and experienced Geometrician could not with his Compaſs make a rounder. They hatch and bring up ſix or ſeven Young at once. The Eggs of all kinds of them that we have hitherto ſeen are white. The *Woodſpite* is called by the *Greeks* Δρυοκολαπτὴς, from ſtriking or piercing of trees. The *Latine* name *Picus* ſome think to be derived from the *French* and *Italian* word *Becco*, ſignifying a Bill or beak of a bird. *Aldrovandus* thinks that it was rather deduced from the *Flemmiſh* word *Picken*, ſignifying to ſtrike or knock with the Bill. The word *Pick* with us is variouſly applied, but originally ſeems to have the ſame ſignification as in *Flemmiſh*, *viz.* either to ſtrike with the Bill, or gather up with the Bill. Hence in the North of *England* theſe Birds are called *Pickatrees*, a word exactly of the ſame ſignification with the *Greek* Δενδροκολαπτὴς.

That *Woodpeckers* will learn to ſpeak I can hardly be perſwaded, though *Albertus Magnus* and *Scaliger* affirm it.

The *Woodpecker* was not only by the ancient *Latines*, called *Pluviæ avis*, the *Rain-fowl*, but is ſo alſo by our Country men now adays, becauſe by its voice more loud and frequent than uſual it is thought to preſage rain.

Chap.

CHAP. V.

Of ſeveral ſorts of Woodpeckers.

§. I.

The greateſt black Woodpecker.

THE Cock, which we deſcribed, weighed ten ounces and an half: being in length from the tip of the Bill to the end of the Tail eighteen inches and an half; in breadth between the tips of the Wings ſpread twenty nine inches and an half.

Its Bill from the point to the Angles of the mouth was two inches and an half long, ſtrong, hard, triangular, as in the reſt of this kind. Above the Noſthrils a hard wrinkle is produced beyond the middle of the Bill. That part of the Bill which is below the wrinkle is white, the reſt black. The Tongue, when extended, is of a very great length. It can ſhoot it out and draw it back at pleaſure, which is common to it with the reſt of this kind. Its Noſthrils are round, covered with reflected hairs: Its Head very great. The *Irides* of the Eyes are of a pale yellow.

The colour of the whole body is black, excepting the crown of the head, which down to the Noſthrils is of a lovely red or Vermilion colour.

The number of flag-feathers in each Wing is nineteen, of which the fifth and ſixth are the longeſt; the Sarcel or pinion feather is very ſhort, and not greater than thoſe of the ſecond row.

The Tail is made up of ten feathers, of which the outmoſt are the ſhorteſt, the reſt on both ſides gradually longer to the two middlemoſt, which are the longeſt of all. All but the outmoſt (which as we ſaid are the leaſt and ſhorteſt) are ſtiff, ſharp-pointed, bending inward, about ſeven inches long, upon which in climbing trees they lean and ſupport their bodies.

The Legs on the forepart are feathered down half way, behind no longer than the knees. The Feet are of a lead colour, It hath two back toes, as the reſt of its kind: The Claws ſtrong and great, except that of the leſſer back-toe, which is very ſmall.

The Gall of a dark green: The Teſticles yellowiſh: The Guts ſeventeen inches long, great and lax: The ſtomach alſo lax and membranaceous, full of Hexapods and Ants. It altogether wants the *Appendices* or blind Guts, as the reſt of this Tribe.

This Bird we found in the Market at *Ratisbone* in *Germany* to be ſold, killed not far from that City. It is not found in *England* that we know of.

§. II.

The green Woodpecker, or Woodſpite, called alſo the Rain-fowl, High-hoe, and Hew-hole.

THE Cock weighed ſix ounces three quarters. Its length from the Bill to the Toes was eleven inches, to the end of the Tail thirteen and an half. The Wings extended were equal to twenty one inches and an half. The Bill from the point to the Angles of the mouth was almoſt two inches long, black, hard, ſtrong, triangular, ending in a blunt point. A reddiſh dusky circle immediately encompaſſes the Pupil of the Eye; the reſt of the *Iris* being white. The Tongue when ſtretched out is of a very great length, ending in a ſharp, bony ſubſtance, rough underneath, wherewith, as with a Dart, it ſtrikes Inſects. The top of the Head is of a Crimſon or Vermilion colour, ſpotted with black. The Eyes are encompaſſed with black, under the black on each ſide is another Vermilion ſpot. The Throat, Breaſt and Belly are of a pale green: The Back, Neck, and leſſer rows of covert feathers of the Wings green: The Rump of a pale yellow or ſtraw-colour, as *Aldrovandus* rightly expreſſes it. The feathers under the Tail are croſſed with tranſverſe dusky lines.

In each Wing are nineteen prime feathers, beſide the outmoſt (which is very ſhort) of a dusky colour, and marked with ſemicircular white ſpots. But more particularly, the outer Webs of the * interiour flags are green, the inner Webs dusky, with ſemicircular white ſpots: The outer Webs of the exteriour flags dusky, and painted with

* Thoſe next the body.

with white ſpots, the inner Webs of the ſame colour with the precedent. The feathers covering the roots of the flags underneath are of a pale green, with tranſverſe dusky lines. The Tail conſiſts of ten feathers, ſtiff, and bending inwards, which by reaſon the ſhaft reacheth not to the end of the Webs, ſeem to be forked. The two middlemoſt feathers are the longeſt, by meaſure four inches and an half, have their tips black, elſe they are marked with croſs bars, above of a dark green, and underneath whitiſh, the three next on each ſide differ not from theſe. Of the two outmoſt (which are blunter than the reſt) the greater are all over varied with tranſverſe bars of black and dark green alternately placed, the leſſer or outmoſt have their tops green, and bottoms black.

The Feet and Toes are of a pale green, and ſometimes of a lead colour: The Claws dusky. The Toes placed as in the reſt of this kind, two forward, two backward. The loweſt bones of the fore toes are joyned together.

It hath a large Gall, an Inch and half long: The right Teſticle round, the left oblong, and bent almoſt into a circle, which leſt any one ſhould think accidental, I obſerved in three ſeveral birds. It hath no blind Guts, but in their ſtead the ſtreight Gut is dilated in that place. Its Crop was full of Ants and Ants Eggs. It feeds alſo upon Caterpillars and *Coſſi*. It ſits more upon the ground than other *Woodpeckers*, and ſeeks its food there.

Its Tongue is round, ending in a ſtiff, ſharp, bony tip, dented on both ſides. This Tongue the Bird can dart out to a great length, *viz.* ſome three or four inches, and draw up again, by the help of two ſmall round Cartilages, faſtned into the forementioned bony tip, and running along the length of the Tongue: Theſe Cartilages from the root of the Tongue take a circuit beyond the Ears, and being reflected backwards to the crown of the Head, (where they both meet again, and are kept down down by a Ligament going over them) make a large bow. Below the Ligament they run down the Sagittal Suture, and then declining a little to the right ſide, paſs juſt above the orbit of the right Eye, and along the right ſide of the Bill into a hole excavated there, whence they have their riſe or original. The muſculous ſpongy fleſh of the Tongue encloſes theſe Cartilages like a ſheath, and is ſo made that it may be extended or contracted like a Worm. That part alſo of theſe Cartilages, reaching from the hind part of the Head to the end of the Bill, is covered with the like muſculous fleſh that may be contracted or extended like the Tongue, only both Cartilages are not encloſed in one muſcle, but have each its ſeveral diſtinct muſculous ſheath, like two ſmall ſtrings or worms. On the ends of theſe Cartilages (for I could without much force draw them out of their ſocket in the Bill) there was a white glutinous or mucous matter. On the inſide the flexure of theſe Cartilages reaching from the root of the Tongue to the top of the Head, was a broad thin muſcle, which ſerved to move the Cartilages to and fro. For by contracting it ſelf it ſtreightens the bow of the Cartilages (almoſt after the manner as the *Tunica Uvea* dilates the Pupil) and ſo neceſſarily forces the Cartilages forward through the Tongue, and thruſts out the Tongue: But we leave theſe things to be more curiouſly weighed and examined by others.

The tips of the ſhafts of the Tail-feathers in this and other *Woodpeckers* ſeem to be broken or worn off by their reſting upon them in climbing.

This kind lays five or ſix Eggs at once. I have ſeen ſix young ones together in a Neſt.

* Bellonius *his greateſt green Woodpecker.*

Bellonius makes this Bird (which he would have to be *Ariſtotles* third kind of *Woodpecker*) far greater than the common green *Woodſpite* now deſcribed. He gives him a crooked Bill, contrary to the manner of the reſt of this Tribe: Feet after the faſhion of others: Divers ſpots in the Wings, ſuch as are ſeen in the Wings of the reſt, but different in colour.

§. III.

The greater ſpotted Woodpecker or Witwall, Picus varius major; Πίτυος Ariſt.

IT is as big or bigger than a *Blackbird*. The Female weighed two ounces three quarters. Its length from the Bill to the Claws was eight inches, to the end of the Tail nine and an half: the diſtance between the tips of the Wings extended ſixteen inches.

The Bill in the Cock was an inch and a quarter long, meaſuring from the tip to the corner of the ſlit of the mouth, ſtreight, black, thicker at the head, and ſlenderer by degrees, ending in a ſharp point, being of a triangular Pyramidal figure, and channel'd with a furrow or two. The Noſthrils round and covered with black briſtles. The *Irides* of the Eyes red. The Tongue made like that of the green *Woodpecker*.

On the hind part of the Head is a line of Crimſon or Vermilion red, reaching from white to white in each cheek; [in the Cock, not in the Hen.] In the Hen the Throat and Breaſt were of a dirty yellowiſh white: The lower Belly under the Tail of a * lovely red or Crimſon colour. Hence the *Italians* call it *Cul roſſo*, the *Welſh* by a name ſignifying *Fire-tail*. The feathers encompaſſing the Baſe of the upper Chap, and thoſe about the Eyes and Ears are white. The Head is black, with a daſh of ſhining green, the Back alſo black. At the inſertion of the Wings on each ſide is a great white ſpot. From the corners of the mouth a broad, black ſtroak reaches o wn to the Back: juſt below the Head another black ſtroak croſſes this.

* *Phœniceo colore.* Crimſon colour.

The flag-feathers of the Wing are in number twenty (of which the firſt or outmoſt is the ſhorteſt) black, and marked with ſemicircular white ſpots. The interiour covert feathers of the Wings are white, and make up part of thoſe white ſpots we mentioned on the ſhoulders; the middlemoſt are wholly black, the exteriour have one or two white ſpots. The ridge or Baſe of the Wing is white.

The Tail is three inches and an half long, made up of ten feathers; of which the two middlemoſt are the longeſt, being ſtrong, ſtiff, ſharp-pointed, and bending inwards: The ſhaft, as in others, is not produced to the utmoſt tip (perchance worn or broken off with climbing) by reaſon whereof the feathers appear forked. The outmoſt Tail-feather on each ſide is ſmall, black, and having a white ſpot in the exteriour Web. In the two next the lower part is black, and the reſt white, with two tranſverſe black ſpots or ſtroaks, of which the upper cuts both Webs of the feather, the lower only the interiour. In the third the black reacheth higher, and the white part hath only one tranſverſe black ſtroak. The fourth pair are all black, having only a ſemicircular ſpot of white toward the top, the very tip being of a reddiſh white: The two middlemoſt are wholly black.

Annot. I think it is not needful ſo ſcrupulouſly to deſcribe every particular ſpot in each feather: for that nature takes a latitude, ſporting her ſelf, as they call it, in theſe leſſer things, not obſerving always the ſame number, figure, and ſituation of ſpots. In the Bird I deſcribed, the flag-feathers of the Wings were ſpotted on both ſides the ſhaft with white ſpots, which when the Wing was extended ſtood in rows croſſing the feathers: The four middle feathers of the Tail wholly black, the reſt variegated with white and black tranſverſe ſpots. The feathers ſtand ſo that the Tail, when ſhut, ſeems a little forked.

The Feet are of a lead colour. It hath the Toes ſo ſituate as the others of this kind, *viz.* two forward, two backward: The two fore-toes likewiſe connected from the divarication place to the firſt joynt.

It hath a ſmall Liver with a Gall annexed. The Breaſt-bone is very long, produced almoſt to the vent: A ſmall Gizzard or ſtomach, in that we diſſected full of * *Coſſi*, *Spondyli*, and Beetles. The Guts lie deep within the body, that they be not hurt when the Bird turns her head downward, and ſtrikes trees with her Bill. It is common to this, with the reſt of its kind, to want the blind Guts.

* A great Inſect with ſix feet, reſembling a Caterpillar found in rotten wood.

§. IV.

The leſſer ſpotted Woodpecker or Hickwall, Picus varius minor.

THis is for ſhape and colour like to the laſt deſcribed, but much leſs, weighing ſcarce an ounce; being in length from Bill to Tail not more than ſix inches; though the Wings extended were no leſs than eleven inches broad from tip to tip.

The Tail conſiſted of ten feathers, from the exteriour to the middlemoſt gradually longer each than other, the two middlemoſt being the longeſt. Of theſe the four middlemoſt are wholly black, ſtrong, ſharp, and bending inward, as in the reſt of this kind, ſo made to ſuſtain the body when ſhe climbs trees: The three exteriour are leſs ſharp, of which the outmoſt and leaſt hath the bottom black, and the upper part white, with two tranſverſe black ſpots. In the next the black part is extended in the inner Web as far as the ſecond tranſverſe black ſpot; in the outer the white reacheth lower, yet hath it only one tranſverſe black ſpot toward the top. The third is black, having only the tip white.

The Throat, Breaſt, and Belly are of a ſordid white, above the Noſthrils it is of a dusky colour, and on the head it hath a white ſpot. The hinder part of the head is black. From the Eyes to the middle of the Neck two broad lines of white feathers terminated on both ſides with black are produced, concurring about the middle of the Neck [only the feathers that cover the Ears are of the ſame colour with the Breaſt.] The upper part of the Back, and upper covert feathers of the Wings are black. The prime feathers and reſt of the covert feathers are elegantly ſpotted with white ſemicircular ſpots. The middle part of the Back is white with croſs lines of black. The Bill, Tongue, *Irides*, Feet and Toes like thoſe of the laſt deſcribed. The Legs feathered, but not down to the Toes: The Claws black and crooked. The ſame number of prime feathers in Wings and Tail. The Stomach diſſected was full of Inſects.

It wants the *Appendices* or blind Guts, like the reſt of this kind.

The Cock differs from the Hen in that inſtead of a white ſpot on the head is hath one of a lovely red or Crimſon.

Aldrovandus writes, that this kind wants thoſe red ſpots on the Head and Rump; which is true of the Female, but not of the Male, for his Head, as we ſaid, is marked with a red ſpot.

§. V.

* *The Braſilian parti-coloured Woodpecker, called* Ipecu, *Marggrave.*

THis Bird is about the bigneſs of a *Dove*. The length of the Neck was two inches, of the body four, of the Tail alſo four, of the Legs almoſt an inch and half. It hath four Toes in its Feet, two ſtanding forwards, and two backwards, as in *Parrots*. The Head is covered with feathers of a Vermilion colour, on which alſo it hath a Creſt like a *Dove*. The Neck underneath is black to the very Bill, as alſo above: But in both ſides there is a broad white line produced toward the Back [*diviſim.*] The Wings are outwardly all over black, inwardly white: The Tail black. In the Belly and upper part of the Legs the feathers are black and white. Its Bill is ſtreight, ſharp-pointed, an inch and half long, wherewith it pierces the barks of trees, as the *Woodpecker*.

§. VI.

The Wryneck: Iynx ſive Torquilla.

THis Bird is of the bigneſs of the common *Lark*, or ſomewhat leſs: It weighs more than an ounce. Its length from the tip of the Bill to the end of the Tail ſeven inches and an half: The breadth of the Wings ſpread eleven inches. The Bill is ſhort, ſmaller, and leſs triangular than in the reſt of this kind, of a lead-colour. The Tongue round, ending in a ſharp bony thorn, which it can dart out to a great length, and withdraw again, like the reſt of this kind. The *Irides* of the Eyes of a yellow hazel colour. The Feet and Legs ſhort, of a pale lead colour [or, as I deſcribed them of a fleſh colour.]

It

It could ruffle up the feathers of its Head, ſo as to make them appear like a Creſt, as doth the *Jay*. The Plumage is ſo elegantly and curiouſly coloured, that it is very difficult in words to deſcribe it; the upper part of the body being variegated with white, black, reddiſh, dusky, and grey or aſh-colour. From the crown of the Head all along the middle of the Back runs a liſt of black. The Head is cinereous, with tranſverſe white, black, and red lines: The Throat and lower Belly yellow with tranſverſe black lines; the middle of the Breaſt is whiter, with fewer lines. The feathers covering the bottom of the prime Wing-feathers are yellow, with tranſverſe black lines. The Rump is more aſh-coloured than the Head, with white ſpots and tranſverſe black lines.

The prime Wing-feathers are in number nineteen, the firſt or outmoſt being ſomething ſhorter than the ſecond, black, but ſpotted with great red ſpots; which ſpots, eſpecially in the feathers next the body, are powdered with ſmall, black ſpecks. The tips of the ſecond row of Wing-feathers are white. The Tail-feathers are ten, not ſharp-pointed, nor ſtiff, nor bending inwards, as in the above deſcribed *Woodpeckers*; two inches and an half long, of a cinereous colour, croſſed at large intervals with bars of black: To ſpeak exactly, the part next the croſs bars is of a dark aſh-colour, the reſt of the intermediate ſpaces of a paler cinereous, ſprinkled, and as it were bedewed with black ſpecks.

The Toes are ſo diſpoſed as in the reſt of this kind, two forward, two backward: The outmoſt Toes in each Foot are equal, and twice ſo long as the inmoſt.

It wants the blind Guts like the reſt of this kind. The length of the Guts was nine inches.

It ſtrangely and ridiculouſly turns its head back to its ſhoulders, whence it is by *Gaza* called *Torquilla*. It feeds upon *Ants*, which darting out its Tongue it ſtabs through with great celerity, with the thorny point we mentioned (as Children are wont to catch Frogs with an Iron Dart, ſhot out of a Bow, and drawn back again) and ſo ſwallows them, never touching them with its Bill, as other birds are wont to do their meat: Witneſs *Geſner*, who tells us, that himſelf kept one five days in a Cage, and affirms upon his own experience that it feeds upon no other food but *Ants*.

The Hen is paler and more cinereous than the Cock. *Aldrovandus* obſerved a long black ſpot behind the Eyes in the Cock.

Annot.] I deſcribed this Bird thus. The Quils or prime feathers in each Wing were eighteen, of a dusky colour, marked in their exteriour Webs with red ſpots, in their interiour with pale ones: ſo ſituate as in the pied *Woodpecker*. The Throat and upper part of the Breaſt were yellow, and the Belly white, from Bill to Tail variegated with thick-ſet, croſs black lines. At each corner of the mouth grew white feathers, varied with the like tranſverſe lines.

§. VII.

* *The Braſilian* Jacamaciri *of Marggrave.*

FOr the conformity of its Feet we have ſubjoyned it to the *Woodpeckers*. It is of the bigneſs of a *Lark*. It hath a ſtreight, ſharp-pointed, black Bill, almoſt two inches long: A ſhort Tongue, [wherein it differs from *Woodpeckers*] blue Eyes; ſhort Wings; which end a little beneath the riſe of the Tail. The Tail is almoſt three inches and an half long, ſtreight, compoſed of ſeven or eight feathers. The upper Legs are feathered, the lower bare, the skin being of a colour mingled of yellow and green; of which colour are alſo the Feet. In each foot it hath four Toes, two ſtanding forwards, and two backwards; both the inner Toes in each Foot, as well the fore as the back one, are but half ſo long as the outer. The Claws are black. The whole Head, upper part of the Neck, Back, Wings, and Tail above are of a green colour mingled with golden or igneous, ſo that they ſhine wonderfully. A ring of the ſame colour doth alſo encompaſs the Neck. Under the Throat, on the Breaſt, the lower Belly, and under the Tail it is of a dark yellow colour, like yellow Wax.

§. VIII.

* *The Braſilian* Curucui *of Marggrave.*

IT is a very elegant and beautiful bird, almoſt of the bigneſs of a *Pie:* Hath a ſhort broadiſh Bill, of a brimſton colour: A wide mouth, and, when open, or a triangular figure: Fair blue eyes with a golden circle [I ſuppoſe he means encompaſſing the Pupil] and under each Eye a ſpot of white skin, like a Hen: In the Eye-lids above and beneath black, ſtiff hairs: The Neck not long: The Legs ſhort and feathered almoſt to the Feet, with black feathers. It hath a Tail five inches and an half long, of a good breadth. Under the lower Bill, in the middle, and at both ſides, is as it were a beard, made up of black briſtles, yet ſhining with a gloſs of blue as in the Necks of *Mallards.* Under the Throat the feathers are only black. The whole Breaſt and lower Belly are of an excellent Vermilion colour: The whole Back and upper ſide of the Tail are of a ſhining green, with a gloſs of blue, and golden, or igneous colour, The end of the Tail hath a black border. Underneath the Tail it hath white feathers elegantly ſtraked with croſs black lines. The beginning of the Wings is of that ſhining green we mentioned: The middle part is hoary, the black feathers being poudered with very little grey ſpecks, as *Mallards* uſe to be: The utmoſt part, that is, the longeſt feathers, are of a dark dusky or blackiſh colour. The Legs, as I ſaid, are almoſt wholly cloathed with black feathers: What is bare, together with the Feet, is of a dusky aſh-colour. The Toes are ſo diſpoſed as the *Parrots.* The feathers under the Wings are grey.

§. IX.

* Guira acangatara *of the Braſilians,* Marggrav.

THis Bird is about the bigneſs of a *Magpie.* It hath a Bill an inch long, the upper Chap whereof is a little hooked, the whole of a dark yellow: The Eyes Cryſtalline, with a dusky circle: The Neck two inches long, the body three. The Tail very long, *viz.* eight inches, conſiſting of eight ſtreight feathers. The upper Legs are an inch and half long, as alſo the lower. The Toes in each foot four, ſtanding as in *Parrots,* the two inward in each foot being ſhorter, the two outward longer. The whole Head is cloathed with feathers, which in their middles longways near the ſhaft are dusky, in their ſides yellow, as is the Creſt. The Neck and Wings (on the other ſide) have their feathers yellow in the middle, and dusky in the ſides. The ends of the Wings are almoſt wholly dusky. The whole Belly, Back, excepting the Wings, upper Legs, and riſe or baſe of the Wings to three inches and an half length, are covered with feathers of a pale yellow. The end of the Tail hath white feathers, the reſt of the Tail is dusky. The lower Legs and Feet are of a * Sea-water-colour. On the Head are long feathers erected like a Creſt. It makes a great cry in the Woods.

* Sea-green we call it.

§. X.

* *The Braſilian* Aracari *of* Marggrav. *the other* Xochitenacatl *of* Nieremberg.

IT is of the bigneſs of a *Woodpecker* [I ſuppoſe he means the common green one] hath a Bill four inches long, an inch and half broad or deep, three inches and an half thick where thickeſt, [I ſuppoſe he means ſo much by meaſure round] a little bending downward like a *Turkiſh* Scymitar, and ſharp-pointed like a *Parrots*; the upper Chap being a little longer than the lower: Both upper and lower are for above half way reckoning from the end, ſerrate or toothed. The upper part of the Bill is greater than the lower. The Bill is hollow, very light, [lighter than a Spunge:] The upper Chap white, diſtinguiſhed by a black line running along the middle or ridge from head to point, the lower Chap wholly black. The whole Bill is inſerted into the Head triangle-wiſe, and where the inſertion is, compaſſed about with a triangular white line. It hath a Tongue four inches long, very light, and plainly reſembling a feather to ſee to: Or elſe is feathered and black, (if the Tongue may be ſaid to have a feather.) It hath a Head not very big, broad, and compreſſed; great Eyes, with

with a black Pupil, yellow *Irides*, and the * reſt of the outſides of the Eyes black. The Neck is not longer than a *Parrots*. The body from the riſe of the Neck to the Tail is about five inches long. The Tail is broad like a *Woodpeckers*, and ſix inches long, or ſomewhat more. The Legs and Feet are of a dark green or black, like to thoſe of *Parrots*, having two fore-toes, whereof the one longer than the other, and two back-toes likewiſe of unequal length. The Claws crooked, and dusky or black. The length of the upper Legs is two inches, of the lower one and an half. The whole Head and Neck as far as the beginning of the Breaſt are covered with black feathers, which where they end are terminated in a circle. The Breaſt, and all the lower Belly elegantly cloathed with yellow feathers mingled with pavonine. Croſs the Breaſt from the one ſide to the other is a broad line drawn, of a ſanguine colour. The whole Back, Wings, Tail, and upper Legs are covered with dark green feathers, [or black with a gloſs of green] like the colour uſual in our *Magpies*. The end of the Back above the beginning of the Tail is of a ſanguine colour to more than the Circumference of a Crown piece. The Wings end at the riſe of the Tail, and within ſide are of a dark aſh-colour. The Bill is black within. This Bird doth, as it were, pronounce its own name, crying with a ſharp voice, but not very ſhril, *Aracari*.

* *Reliquæ extremitates.*

This Bird is very like the *Toucan* or *Braſilian Pie*. The conformation of its Feet argues it to belong to the Woodpecker-kind. We ſaw the Bill of this Bird in the *Repoſitory* of the *Royal Society*, *London*, our ſelves alſo have one of them: It is much leſs than the *Toucans* Bill, not ſo compreſſed ſide-ways, but rounder. The upper Chap wholly white, without any line of black in the top, (wherein it differs from the *Aracari's* Bill deſcribed by *Marggrave*) the lower black.

§. XI.

* *The yellow blue-footed Perſian Woodpecker of* Aldrovandus.

THis Bird communicated to me by *Tartaglinus* the *Venetian*, (who ſhewed me many exotic Animals painted) at firſt ſight, from the conſtitution of the Bill and Feet I judged to be of the *Woodpecker-kind*. In bigneſs it differs little or nothing from the green *Woodſpite*; only it hath a thicker Head and Neck, and a longer Bill. The feathers from the middle of the Crown to the end of the Tail have ſomething of ferrugineous: But the Bill is altogether ferrugineous. The Feet are of a pale blue. The Claws are black: The reſt of the body is yellow, ſave that all the Wing-feathers ends or tips incline ſomewhat to ferrugineous; and that a ſpot of the ſame colour encompaſſes the Eyes. He ſaid it was an exotic Bird, and bred in *Perſia*.

§. XII.

* *The American Hang-neſt, called by the Braſilians* Guira tangeima. *Marggr.*

IT is a Bird ſomewhat bigger than a *Lark*, equal to the ſpotted *Woodpecker*. Its body is about three inches long; Its Neck an inch and half: The Head is ſmall, the Bill ſtreight, ſharp-pointed, an inch long. Its Legs and Feet are like thoſe of other birds, its Tail ſtreight, four inches long. The colour of its Bill is black, except the lower part, where it is inſerted, which hath ſomething of dusky: The Head and Neck, as low as the beginning of the Breaſt, very black. The upper part of the Neck from the Head almoſt to the beginning of the Back is of a *Sky-colour. Through the beginning of the Back it hath a tranſverſe black ſpot, reaching as far as the Wings: But the Wings themſelves are of a deep black, only in the middle they have a white ſpot ſituate longways the feathers, of an inch and half long. The Tail alſo is wholly black: The reſt of the body is of a Sky-colour. The Legs are bluiſh: The Pupil of the Eyes black, with a yellowiſh white *Iris*. Theſe Birds build admirable Neſts of a Cylindrical figure, and hang them in great numbers on the ends of the boughs and twigs of trees. Theſe Neſts are made of the ſmall Fibres of roots and twigs of trees and herbs, curiouſly platted and interwoven.

* *tranicè coloris.*

§. XIII.

The Braſilian Jupujuba *or* Japu *of Marggrave.*

THis is of the ſame figure with the precedent, and builds after the ſame manner, in the ſame tree [one of theſe is a Male, the other a Female] but hath ſomewhat a ſhorter Tail. The whole body is inveſted with very black feathers. In the middle of each Wing it hath a yellow ſpot, an inch long: In the end of the Back, and near the vent it is all yellow. [I have ſeen alſo that were wholly black, with their Backs of a ſanguine colour.] The Tail below from its riſe half way is yellow, the other half being black; above it is wholly black, only it hath on both ſides a feather half yellow. The Legs and Feet are black: The Bill of a Brimſtone-colour. The Eyes of a Sapphire colour, with a black Pupil. It hath a blue Tongue, cleft or doubled at the top. Near the houſe of the Owner of the Engine *Tapucurai* is planted the tree *Uti*, in which hang more thau four hundred Neſts of theſe Birds; of which there are there a very great number, which hatch and bring up three broods of young in a year. Each Neſt is made of dry graſs and horſe-hair, or hogs briſtles mingled, of a dusky colour, of the figure of a narrow Cucurbite with its Alembick, long, in the whole about a foot and half, and from the bottom for one foot upwards hollow like a Purſe, the remaining or upper part of it for half a foot being ſolid, and hanging by its tip on the tip of a little branch of the tree. All theſe Neſts hang down on this faſhion from the tips of the twigs of trees.

We have often ſeen the Neſt of this Bird artificially built kept among other rarities in the Cabinets of the curious. I perſuade my ſelf that this was the very Bird, which the Ancients underſtood by the name of *Picus nidum ſuſpendens*, *i. e.* the Hang-neſt-Woodpecker. I am ſure there is a great deal more reaſon why this ſhould be ſo called, than the *Oriolus*, which *Aldrovandus* takes to be the *Picus nidum ſuſpendens*. *Antonius Pigafeta* writes, that Parrots do on this faſhion hang their Neſts on the extremities of the branches of trees; falſly imagining that the Neſts which he ſaw hanging on the twigs of trees were *Parrots Neſts.*

Chap. VI.

Of Woodpeckers leſs properly ſo called.

§. I.

The Nuthatch or *Nutjobber*, Sitta ſeu Picus cinereus.

IT is ſomewhat leſs than a *Chaffinch*. The Cock weighed almoſt an ounce. Its length from the tip of the Bill to the end of the Tail was five inches three quarters, to the end of the Toes ſix inches.

The Bill was ſtreight, triangular, black above, underneath toward the Throat white, almoſt an inch long, meaſuring from the tip to the Angles of the ſlit of the mouth. The Tongue broad, not longer than the mouth, horny at the end and jagged: The Noſthrils round, and covered with ſmall briſtles. The Head, Neck, and Back of an aſh-colour: The ſides under the Wings red: The Throat and Breaſt of a pale yellow [or rather Cheſnut-red.] The lower Belly under the Tail hath ſome red feathers with white tips. From the Bill through the Eyes to the Neck is extended a long black ſtroak: The Chin is white.

The number of flag-feathers is nineteen, of the which the firſt is very ſhort and little. The interiour, or thoſe next the body, have their Webs cinereous; the exteriour dusky: The ſhafts of all are black. The Wings underneath are marked with a double ſpot, the one white at the roots of the exteriour quils, the other black and larger, beginning at the inſertion of the baſtard-wing.

The Tail is ſhort, ſcarce two inches, made up of twelve feathers, all of equal length, unleſs the outmoſt be ſomewhat the ſhorter, not ſharp-pointed, nor ſtiff as in *Woodpeckers*, but flexile and limber: The two middlemoſt cinereous; the two next to them black with cinereous tips; the two ſucceeding have the inſide of their tips white, the

the outside cinereous. The outmost have their tips of a dark ash-colour, and under that a transverse white spot, the rest of the feathers being black.

The Legs are short; both Legs and Feet of a dark flesh-colour. It hath but one back-toe, equal to the middle of the fore-toes. The Claws are great, crooked, and of a dusky colour; that of the back-toe the biggest. The outmost fore-toe the least: Both outmost and inmost joyned to the middle toe at the bottom.

It had a musculous Stomach or Gizzard, in which we found Beetles; short blind Guts. The length of the Guts was six inches and an half.

It builds in the holes of trees, and if the entrance be too big, it doth artificially stop up part of it with clay, leaving only a small hole for it self to pass in and out by.

It feeds not only upon Insects, but also upon Nut-kernels. It is a pretty spectacle to see her fetch a Nut out of her hoard, place it fast in a chink, and then standing above it, with its head downwards, striking it with all its force, breaks the shell, and catches up the Kernel.

This bird is by *Aristotle* called Σίττη, who makes two kinds of it, a greater, and a lesser. *Gaza* retains the same name, calling it in *Latine*, *Sitta*, Later Writers stile it *Picus cinereus*, *i.e.* the *ash-coloured Woodpecker*; because like them it climbs and runs up the bodies and boughs of trees. It is called by some Σαπόπυγις, and Κίναιδος, because it moves and flirts up the Tail.

§. II.

* *The Wall-creeper, or Spider-catcher.* Picus murarius, *Aldrov.* l. 12. c. 37.

IT is somewhat bigger than a *House-Sparrow*, almost as large as a *Stare*. The colour of the whole body is best seen when the Wings are spread. It hath a long, slender, black Bill. The Head, Neck, and Back cinereous: The Breast white: The Wings partly cinereous, partly red, *viz.* toward the Belly: The Tail short: The long feathers of the Wings, the lower part of the Back, the Belly, and Legs, (which, after the manner of *Woodpeckers*, are short) black: The Toes long, three standing forward, and one backward, though *Bellonius* attributes to it two fore-toes, and so many back ones: Wherefore it is to be suspected, that either he knew not the *Wall-creeper*, or else set forth one different from ours, which I do not believe, because the rest of the description he gives of it, agrees exactly to our Bird. Thus far *Aldrovandus*; who writes, that this Bird is frequent and obvious enough in the Territory of *Bologna*; in flying like to the *Hoopoe*, almost always shaking its Wings like that, never resting in one place. By later Writers it is called *Picus murarius*, because as *Woodpeckers* cling to trees, and hang on them, so this sticks to all Walls, especially those of Towers, and seeks Insects in their chinks: Whence in Winter-time it is often seen in Cities. It is a brisk and chearful bird, and hath a pleasant note. It flies alone, and sometimes two in company. It builds its Nest in the holes of trees. *They say it is found in* England; *but we have not as yet had the hap to meet with it.*

§. III.

The greater Reed-Sparrow, Junco Aldrov. Cinclus Turneri.

THe Cock, which we described, was for bigness not much inferiour to a *Thrush*. The Bill was great, somewhat crooked; from the tip of the Angles of the mouth, more than an inch long. The upper Chap of a dusky colour, the lower whitish. The Tongue cloven, and divided into many filaments. The inside of the mouth of a deep yellow or Saffron colour. The Nosthrils are round and great: The *Irides* of the Eyes of a red hazel colour. Not far from the Angles of the mouth in the upper Mandible grow four or five black hairs. The Throat, Belly, and Breast are white, with a kind of yellowish tincture, more yellow about the vent: The supine or upper side of the body of a dusky yellowish colour. Above each Eye is a whitish line.

The number of prime feathers in each Wing is eighteen. The Plumage covering the roots of these feathers underneath is yellow. The Tail is three inches and a quarter long: I mean the middle feathers, for the extreme are but two and three quarters; They have a strong shaft, and are stiff like those of a *Woodpecker*.

The

The Legs and Feet are great, ſtrong and muſculous, which is eſpecially remarkable in this bird. It hath but one back-toe, which toward the root or riſe of it is broad and toroſe. The outer fore-toe is joyned to the middlemoſt at the bottom.

It had a yellow Gall, large Teſticles, a ſhorter Breaſt-bone than *Woodſpites*; ſhort blind Guts: Reed-Beetles in the ſtomach.

It is always converſant among Reeds, and ſings ſweetly. It ſticks to, and climbs up Reeds, as *Woodpeckers* do up trees.

The *Alcedo vocalis* of *Bellonius* ſeems to be the ſame either with this or the leſſer Species; the deſcription whereof ſee in *Aldrovandus*, lib. 20. cap. 62.

§. IV.

The leſſer Reed-Sparrow. An Cannevarola *Aldrovandus?* An Ficedula cannabina *Olinæ?*

IT is equal to, or ſomewhat leſs than a *Redſtart*. It creeps and ſings among Reeds. From the tip of the Bill to the end of the Tail was five inches three quarters: From tip to tip of the Wings extended eight inches. The Bill, meaſuring from the point to the Angles of the mouth, was three quarters of an inch long: The lower Chap almoſt white, the upper blackiſh, the Mouth, within yellow: The Tongue cloven, and divided into filaments, the *Irides* of a hazel colour. The Back toward the Rump is of a dark olive or dusky green, toward the Head more cinereous. The middle of the Breaſt is white; the Throat and lower Belly have a mixture of yellow. The ſides are of a dirty, greeniſh colour.

The prime feathers of the Wings are in number eighteen, of which the ſecond is the longeſt. They are of a dark brown or dusky colour, as in the *Redſtart*, and other ſmall birds. The Tail is $2\frac{1}{8}$ inches long, and compoſed of twelve feathers. The ſoles of the Feet are of a greeniſh yellow. The outmoſt Toe adheres to the middlemoſt below, as in others. The Bill and Feet in this Bird are greater than the proportion of the reſt of the body ſeems to require. The Female differs little or nothing from the Male.

Annot. This Bird I bought in the Market at *Florence*, where they call it *Beccafigo*: which name they give to many ſmall birds that feed fat. I ſuppoſe it is that deſcribed and figured in *Olina* by the title of *Beccafigo Cannabino*. My deſcription differs ſomething from this of Mr. *Willughby*, but not conſiderably, *viz.* The Back was of a pale green inclining to yellow, which juſt above the Tail was more yellow. The feathers of the Wings and Tail were of a Mouſe-dun, having their edges of the ſame colour with the Back. The Tail, when ſpread, terminated in a circular Circumference. The Breaſt, Belly, and Throat were white, daſhed with yellow. The Bill long, ſtreight, flat, or depreſſed; The lower Chap of a horn-colour, the upper more duſky, but not black: The Legs long, and of a light blue, with a little daſh of yellow. The Mouth within yellow: The ſoles of the feet yellow.

It is common in the Low Countries among the Reeds.

Another Bird of this name, but different in kind, we ſhall deſcribe afterwards.

§. V.

The Creeper. Certhia.

IT is a very ſmall bird, ſcarce bigger than the copped *Wren*. It hath a long, ſlender, ſharp Bill, bending downwards like a Bow. The upper Chap of a dark colour, the nether white at the baſe, and black at the tip. The Tongue not longer than the Bill, wherein it differs from the *Woodſpites*, yet hard and ſtiff at the point, and ſharp like a Goad. The *Irides* of the Eyes of a dark hazel colour.

The Throat, Breaſt, and Belly white: The Head, Back, and Wings inclining to a Fox-colour; the middle parts of the feathers being whitiſh. Above the Eyes on each ſide is a white ſpot. The beam-feathers of the Wings are eighteen, the firſt of which is very ſhort, the fourth the longeſt, and by meaſure two $\frac{1}{2}$ inches: The three outmoſt are dusky, the reſt have white tips, and a broad white line through their middle, ſomething inclining to fulvous. The edges of thoſe next the body are likewiſe fulvous, and have white only on the exteriour ſide of their ſhafts. The covert-feathers of the Wings are more black, the middlemoſt have their middle part fulvous; all their tips white. The Tail conſiſts of ten feathers only, as in *Woodſpites*, is very long for the bigneſs

bigneſs of the bird, *viz.* two inches and an half, ſharp-pointed, ſtiff, of a dusky red, or reddiſh dun colour.

The Feet are of a light brown: The Legs ſhort: The Feet have long Toes, all armed with very long, ſharp, white Claws, eſpecially the back-toe, which hath it extraordinarily long like a *Lark*.

It is ſufficiently characterized and diſtinguiſhed from all other birds by its littleneſs and bow-bill.

Aldrovandus attributes to his *Certhia* a ſhort Tail, wherein it differs from ours.

It runs up the bodies and boughs of trees, having its Feet and Tail, fitly diſpoſed and formed for ſuch a purpoſe.

It is frequent in *England*; and as *Aldrovandus* reports, builds in the hollows of trees after the manner of *Woodpeckers*; It lays a great number of Eggs, ſometimes, they ſay, not fewer than twenty.

§. VI.

The Hoop or Hoopoe, Upupa Latinis, Ἔποψ Græcis.

IT weighs three ounces. Its length from the point of the Bill to the end of the Tail was twelve inches and an half: Its breadth, the Wings being ſtretched out, nineteen inches.

Its Bill is two inches and an half long, black, ſharp, and ſomething bending. The Tongue ſmall, as *Aldrovandus* rightly hath it, deep withdrawn in the mouth, triangular, being broad at bottom, and ſharp at top, like a perfect equilateral triangle. The ſhape of the body approacheth to that of a *Plover*. The Head is adorned with a moſt beautiful Creſt, two inches high, conſiſting of a double row of feathers, reaching from the Bill to the nape of the Neck, all along the top of the Head: Which it can at pleaſure ſet up, and let fall. It is made up of twenty four or twenty ſix feathers, ſome of which are longer than others; the tips of them are black; under the black they are white, the remaining part under the white being of a Cheſnut, inclining to yellow. The Neck is of a pale red: The Breaſt white, variegated with black ſtrokes tending downward. The older birds had no black ſtrokes in their Breaſts, but only in their ſides. The Tail is four inches and an half long: [*Aldrovandus* ſaith ſix] made up of ten feathers only, black, with a croſs mark or bed of white of the figure of a Creſcent or *Parabola*, the middle being toward the Rump, the horns toward the ends of the feathers. The Tail is extended further than the Wings complicated.

There are in each Wing eighteen quils or maſter-feathers, of which the ten foremoſt are black, having a white croſs bar, which in the ſecond, third, fourth, fifth, ſixth, and ſeventh is more than half an inch broad. The ſeven following feathers have four or five white croſs bars. The limbs or borders of the laſt are ſomething red: The Rump is white. The long feathers ſpringing out of the ſhoulders and covering the back are varied with white and black croſs lines or bars, after the ſame manner as the Wings.

The *Irides* of the Eyes are of a hazel colour: The lower Eye-lid bigger than the upper: The Legs ſhort: The outmoſt toe at bottom faſtned to the middle, without any intervening membrane. The Windpipe (as *Aldrovandus* deſcribes it) at the beginning of the divarication or diviſion into two branches which go to the Lungs, hath two little bones outwardly ſupplying the uſe of the * *Larynx*, between which is ſpread a very thin skin: The annulary Cartilages beyond the divarication in each branch in our obſervation were only ſemicircular, as in *Herons*.

* Head of the Windpipe.

In the Stomach diſſected we found *Beetles*; whence it is manifeſt that it feeds upon Inſects, but whether alſo upon Grapes and other Berries, as ſome of the Ancients have delivered, we know not. I hear (ſaith *Aldrovandus*) that among other things it feeds upon *Ants*. It hath no blind Guts.

In the number of Tail-feathers, want of the blind Guts, croſs lines of the Wings, and partly alſo in its food it agreeth with *Woodpeckers*, to which therefore we have ſubjoyned it.

About *Collen* and elſewhere in *High Germany* it is very frequent, where they call it *Widehuppe*. It ſits for the moſt part on the ground, ſometimes on *Willows*. *Turner* ſaith, that it is found no where in *Britany*: But he is deceived; for we are aſſured by credible perſons, that it is ſometimes, though more rarely, ſeen in *Northumberland*, and alſo in *Surrey*.

Aristotle witnesseth that it makes its Nest of dung, especially mans dung, daubing it therewith instead of Clay.

It took its name in both Languages [*Greek* and *Latine*] from the sound of its voice. The most of our *English* Grammarians ((saith *Turner*) call that bird *Upupa*, which those that speak barbarously from the noise it makes with its Wings are wont to call *Vannellus*, and they in their own Language a *Lapwing*. This inveterate error our Grammar Schools do still retain.

They say the Hen is always greater than the Cock.

Chap. VII.

Of Land Birds that feed upon Fish.

§. I.

The Kingfisher. Ispida an Veterum Alcyon?

It weighed an ounce and a quarter: In length from the tip of the Bill to the end of the Tail exceeded seven inches. The ends of the Wings extended were eleven inches distant.

The Bill was almost two inches long, thick, strong, streight, sharp-pointed, black, yet whitish at the Angle [of the lower Mandible.] The upper Chap is for the most part longer than the lower, yet in some birds the lower is longer than the upper. The Tongue is short, broad, sharp-pointed, and undivided: The Mouth within of a Saffron-colour, the Nosthrils oblong. The Chin is white with a certain mixture of red; the middle also of the Breast or Belly is of the like colour. The lower Belly under the Tail is of a deep red, as are also the sides and feathers under the Wings. The Breast is red, the outmost borders of the feathers being of a dirty bluish green. From the Neck through the middle of the Back to the Tail it is of a most lovely bright, but pale blue, which by its splendour is said to hurt their Eyes that look long and intently upon it. If you heed this colour attentively you may observe the blue crossed with obscure or dark-coloured lines. Between the Nosthrils and the Eyes is a red spot, and another beyond the Eyes: to which succeeds a white mark, tinctured with red. The crown of the Head is of a black green, with cross blue lines.

In each Wing are twenty three Quils, of which the third is the longest; both quil-feathers, and those next to them have their exteriour Webs blue, their interiour dusky. The lesser rows of Wing-feathers, all excepting those covering the base of the Wing, have blue tips. The long-feathers springing from the shoulders, and covering the Back, are of a bluish green. The Tail is short, about an inch and an half in length, made up of twelve feathers, of a dark blue, with somewhat of black.

The Legs and Feet are very short and little, black before, red behind, as are also the soals of the feet and the back-toes. The structure of the Feet in this Bird is singular and different from all others, for the three lower joynts of the outmost toe are joyned to the middlemost; of the inmost only one: This inner toe is the least, and shorter by half than the middlemost, the outer almost equal to the middlemost: The back-toe is somewhat bigger than the inner foretoe. The third or lowest bone of the Leg is greater than is usual in other birds. The toes seem as it were joynted with many cross lines. The bones of the Tongue are lesser and shorter than in other birds.

The Stomach is great and lax, as in carnivorous birds; in that we dissected was full of the bones and scales of fishes. The Guts are slenderer toward the vent. *Gesner* affirms, that the fat of this bird is red; which we found to be true. The same Author tells us, that in one Nest are often found nine young ones: In a Nest in a hole about half a yard deep in the bank of a River we observed but five young ones.

It is a Vulgar persuasion, that this bird, being hung up on an untwisted thread by the Bill in any room, will turn its Breast to that quarter of the Heaven whence the wind blows: They that doubt of it may try it.

Dr. *Charleton*, in his *Onomasticon*, makes mention of another *Kingfisher* brought out of *India*, which scarce exceeds a *Wren* in bigness. We have not as yet hapned to see this Bird, neither do we remember to have elsewhere read any thing of it.

§. II.

§. II.

The Braſilian Jaguacati guacu, *Marggrav. akin to the Kingfiſher.*

IT is by the *Portugues* called *Papa peixe*, becauſe it lives upon fiſh. It is equal in bigneſs to a *Throſtle* or *Mavis:* For the figure of its body like to the greater *Woodſpite.* It hath a black, ſtreight, and ſharp-pointed Bill, almoſt three inches long: Black Eyes, and very ſhort black Legs: The upper Legs are in part bare of feathers. The Feet have four toes (one ſtanding backward) of unequal length: For the two outer are ſhort and contiguous, but the third or inner is much the ſhorter, and more remote. The Claws are black. The Tail is two inches long, reaching further than the ends of the Wings. The ſuperiour feathers of the whole body, *viz.* the Head, Neck, Wings, and Tail, are of a ruſty, but ſhining, colour. About the Neck it hath a ring of pure white feathers. The Throat, underſide of the Neck, Breaſt, and Belly are alſo cloathed with white feathers. Near both the Eyes it hath alſo a ſpot of white. In the Tail ſome of the feathers are ſprinkled with white ſpots, which yet are ſcarce ſeen, unleſs when they ſpread their Wings and fly.

§. VII.

The Bee-eater, Merops ſive Apiaſter.

FOr the ſhape of the body it is like the *Kingfiſher*, for bigneſs equal to a *Blackbird:* From the tip of the Bill to the end of the Tail eleven inches and an half long; the Wings, being ſpread, eighteen inches broad.

The Bill is great, from the tip to the Angles of the Mouth almoſt two inches long, black, and for the proportion of the body very like that of a *Kingfiſher*, ſave only that it is a little more arcuate or bending downward: The Tongue ſlender, deeply cut in or torn at the tip: The * *Irides* of the Eyes of a lovely red, and in ſome of a hazel colour.

* Circles encompaſſing the Pupils.

The Head is great and oblong. The colour of the feathers at the Baſe of the upper Chap is a greeniſh blue, but in the middle between the Noſthrils white. The crown of the Head red, but in ſome birds having ſomething of green mixt. From the corners of the mouth through the Eyes on each ſide is extended a black ſtroak; contiguous whereto under the Chin are bright, but pale yellow feathers. The Neck and Shoulders are green, with a certain mixture of red. The whole Belly and Breaſt, as far as the Chin, are blue, this colour is deeper near the Chin, fainter on the Breaſt and Belly. In ſome the colour of the underſide inclines more to green: Perchance theſe are Cocks.

The number of beam-feathers in each Wing is about twenty one or twenty two; decreaſing by degrees to the tenth. All to the twentieth have black tips. The firſt or outmoſt ten beneath the black are of a bluiſh green: The next nine beneath the black are of a lovely Orange colour, as are alſo the leſſer rows next to them: Thoſe above near the ridge of the Wing are blue. The long feathers ſpringing from the ſhoulders are of a pale yellow.

The Tail is near an hand-breadth long, made up of twelve feathers, of a blue colour, the exteriour Webs having ſomething of green intermixt: The underſide of the Tail was of a dun colour. The two middle feathers run out in length beyond the reſt, and end in ſharp points.

The Legs are very ſhort, but thick for the length: Both Legs and Feet exactly like thoſe of the *King-fiſher*. For the fore-toes, as in that, are all joyned together to the firſt joynt, as if they were but one toe, the outmoſt and middle to the ſecond or third. The Claws are black, the Feet and Toes of a dusky red.

The Liver was of a pale yellow: The Stomach rather membranous than muſculous, in that we diſſected filled with Beetles and other Inſects. The colours of the Wings varied in ſeveral birds, in ſome was more blue, in ſome more green, in ſome more red, and in ſome leſs.

It is ſtrange that *Aldrovandus* ſhould not take any notice of, or not mention at leaſt the connexion of the Toes in this Bird.

It is not unfrequent in the Campagn of *Rome:* For that we ſaw it there to be ſold in the Market more than once. It is not found in *England* that we know of.

Bellonius writes, that it is ſo common in *Candy*, that it is ſeen every where in that Iſland.

Ariſtotle tells us, that it feeds upon *Bees*, whom all other Writers of the Hiſtory of Animals do therein follow. But it feeds not only upon *Bees*, but alſo upon *Cicadæ*, *Beetles*, and other Inſects. Yea, as *Bellonius* relates, upon the Seeds of *Nipplewort*, *Baſtard Parſley*, *Turnep*, &c. not abſtaining from Wheat and other grain. From its exact agreement in the ſhape and make of its Body, Bill, and Feet with the *Kingfiſher*, we ſuſpect that it likewiſe preys upon fiſh.

Bellonius, in the firſt Book of his *Obſervations*, writes thus concerning the *Merops*. Flying in the air it catches and preys upon Bees, as *Swallows* do upon flies. It flies not ſingly, but in flocks, and eſpecially by the ſides of thoſe Mountains where the true Thyme grows. Its Voice is heard afar off, almoſt like to the whiſtling of a man. Its ſingular elegancy invites the *Candy* Boys to hunt for it with *Cicadæ*, as they do alſo for thoſe greater Swallows called *Swifts*, after this manner: bending a Pin like a hook, and tying it by the Head to the end of a thread, they thruſt it through a *Cicada*, (as Boys bait a hook with a fly) holding the other end of the thread in their hand. The *Cicada* ſo faſtned flies nevertheleſs in the Air, which the *Merops* ſpying, flies after it with all her force, and catching it, ſwallows Pin and all, wherewith ſhe is caught.

§. IV.

* *The other Bee-eater of* Aldrovandus. Merops alter, ſeu Meropi congener *Aldrov.*

THe *Germans* call this Bird the *Sea-Swallow*, both becauſe at firſt ſight it ſeems to reſemble a *Swallow*, partly in the ſhortneſs of its Legs, and partly in its flying, and alſo becauſe like the *Swallow* it catches Inſects as it flies. I ſhould rather make it congenerous to the *Bee-eater* than the *Swallow*, becauſe it differs widely from the Sea-Swallow [ſo much as to have little common with it.]

This Bird is a little longer than the precedent, and (as its picture ſhews) a little groſſer or thicker-bodied: Its Bill is black, long, ſharp-pointed, and approaching ſomewhat more to the figure of a Sithe than in that. The Head, Neck, Breaſt, and almoſt the whole Belly yellow. From the bill it hath a great black ſpot, which is carried on backwards through the Eyes to the beginning of the Neck. The Back is of a Cheſnut colour, but mingled with green and yellow. The Wing-feathers are painted with divers colours: For the firſt [the uppermoſt] are blue, the ſecond mixt of blue and yellow, the third altogether yellow; the fourth, *viz.* the prime or beam-feathers black, with red tips. The upper part of the Tail is of a bright green, the lower of a very fair yellow, ſo that it ſeems to be half green, half yellow. It hath yellow Feet and black Claws.

§. V.

* *The Braſilian* Guira guainumbi *of* Marggrave, *of kin to the* Merops.

IT is a Bird to ſee to of the bigneſs of a *Pigeon*, becauſe it is thick and deep-feathered, but the bulk of the body, the feathers pluckt off, is indeed no bigger than that of a *Thruſh*. It hath a head ſomewhat bigger than a *Throſtle*; a black Bill about two inches long, the upper Chap whereof is a little longer than the nether: Both upper and nether Chap are on both ſides toothed like a Saw. It hath ſhort Legs, not much exceeding an inch in length, for colour black: Four Toes in each Foot, one ſituate backward, three forwards, as is ordinary: But the firſt or inmoſt foretoe is ſhorter, the middlemoſt longeſt, and the third again ſhort, but not of equal riſe with the reſt: For the riſe of the firſt is from the middle of the foot, and alſo of the ſecond; but the riſe or beginning of the third is near the third joynt of the middlemoſt: The firſt hath three joynts, the ſecond four, the third again three, the back-toe but two. The Claws are black, and bending downwards. The Tail is very long, ſtreight, conſiſting of a few ſtreight feathers, about an inch broad, but ten inches long: Indeed only two feathers make up the end of the Tail, which for two inches have naked ſhafts, and again have their ends web'd for two inches. The whole body is about ſix inches long. The feathers very beautiful: *viz.* on their Head they have as it were a Mitre or Crown of Sapphire-coloured feathers, which near the riſe of the Bill reſemble the

the colour of the *Turcois* ſtone: In the middle of this Mitre is ſeen a black ſpot of the bigneſs of a Groſs of *Miſnia*. Beneath the Eyes (which are yellow with a black Pupil) it hath alſo black feathers mingled with Sapphire-coloured. The Throat, and the whole Breaſt and Belly are of a dark yellow. The upper part of the Neck, the whole Back, Wings, and Tail are of a green or graſs colour, but wherewith a Sea-green is mixt, as in the Necks of *Mallards* and *Peacocks*. From the Knees to the Belly the upper Legs are covered with green feathers. In the middle of the Neck underneath it bears as it were a badge of three or four black feathers, and about them Sapphirine ones, which make a kind of ſpot or mark.

This Bird for the like conſtitution of its Feet, and ſome agreement in colour, we have ſubjoyned to the *Merops*.

§. VI.

The Water-Ouzel or Water-Crake: Merula aquatica.

THis Bird is well nigh as big as the common *Blackbird*: Weighs two ounces and an half; is in length from the tip of the Bill to the end of the Tail eight inches and an half, to the end of the Claws nine: In breadth between the tips of the Wings ſtretcht out twelve inches and an half.

It hath a ſhorter body than the *Blackbird*, and a thicker Neck. Its Bill is ſtreight, ſharp-pointed, ſlenderer than a *Blackbirds*, meaſuring from the point to the Angles of the mouth about an inch long, or ſomewhat leſs, black-coloured.

The Head and upper ſide of the Neck are of a dark, dusky colour, or black with an eye of red. All the Back, and both prime and covert-feathers of the Wings are particoloured of cinereous and black, the middle parts of the feathers being black, the edges blue. The underſide of the Neck and forepart of the Breaſt are milk white: The feathers contiguous to the white are reddiſh: The lower Belly towards the Tail black. The Eyelids white round about.

It hath in each Wing eighteen quills. The Tail is ſhorter than in the reſt of this kind [that is, *Merula*] ſcarce two inches and an half long, compoſed of twelve feathers of equal length. The Legs, Feet, and Claws are black: The outmoſt foretoe at bottom joyned to the middlemoſt. The Tongue is black, ſlender, and a little cloven at the tip. The circles encompaſſing the Pupils of the Eyes great, broad, and of a fair hazel colour. The Eyes are furniſhed with nictating membranes. The Noſthrils are long. The Plumage covering the whole body thick-ſet, as in water-birds.

It frequents ſtony Rivers and Water-courſes in the Mountainous parts of *Wales*, *Northumberland*, *Weſtmoreland*, *Yorkſhire*, &c. That I [*J. R.*] deſcribed was ſhot beſide the River *Rivelin* near *Sheffield* in *Yorkſhire*: That Mr. *Willughby* deſcribed near *Pentambath* in *Denbighſhire*, in *North-Wales*. It is common in the *Alps* in *Switzerland*; where they call it *Waſſer-Amzel*.

It feeds upon fiſh, yet refuſeth not Inſects. Sitting on the banks of Rivers it now and then flirts up its Tail. Although it be not Web-footed, yet will it ſometimes dive or dart it ſelf quite under water. It is a ſolitary Bird, companying only with its Mate in coupling and breeding time.

Chap. VIII.

The greateſt Land-birds, of a peculiar kind by themſelves, which by reaſon of the bulk of their bodies, and ſmalneſs of their Wings cannot fly, but only walk.

§. I.

The Oſtrich: Struthiocamelus.

WHat occurs in Ancient and Modern Writers concerning this Bird ſee in *Geſner* and *Aldrovandus*.

It is the greateſt of all birds, except perchance the *Emeu*, which though it be not ſo tall, yet in bulk of body is well nigh equal to it. Mr. *Willughby* ſaith, it is either equal or bigger, but I think that, if either have advantage of other in magnitude,

tude, it is the *Oſtrich*. When it holds up its Head it approacheth to the height of two Yards. *Pliny* writes, that it exceeds the height of a horſeman ſitting on horſeback: Which is to be underſtood when it ſtretches its Neck forth, and reaches upwards as high as it can. The Head is ſmall, depreſſed or flat-crown'd, and (as *Aldrovandus* truly) like a *Gooſes*: The Bill alſo is compreſſed, and compared with the body very ſmall, of a triangular figure, and horn colour, the tip being black. The skin at the Noſthrils ends in a ſemicircle. The ſlit of the mouth is large, reaching ſo far that its extremes or Angles lie directly under the Eyes. The Eyes are great, with hazel-coloured *Irides*. Of all great birds this alone hath both Eye-lids [upper and lower] as *Pliny* witneſſeth. Which whether it be true or not we leave to be examined by others that have opportunity of ſeeing the bird. The Head and Neck, almoſt as far as the Breaſt, are bare of feathers, as are alſo the Thighs. The Head and Neck are covered with a certain Down, or thin-ſet hairs inſtead of feathers. The ſides under the Wings, and the Thighs are abſolutely bare. The lower part of the Neck where the feathers begin is white. The Wings are ſmall, and altogether unuſeful for flying, deſigned by Nature only to aſſiſt the bird in running, being ſpread and moved. The feathers of the Back in the Cock are cole-black, in the Hen only dusky, ſo ſoft that they reſemble a kind of Wool. The Wing-feathers are of the ſame colour [with the Back] beneath, but above in their upper part purely white. The Tail is thick, buſhy, and round, not as in other Birds, to be ſpread out in breadth, the component feathers in the Cock being whitiſh, in the Hen duskiſh, with white tops; which feathers are in great requeſt for Souldiers Hats, Helmets, *&c.*

Its Neck and Legs are very long: It hath but two toes, wanting the back-toe and inmoſt foretoe. The outer toe in that we deſcribed was five inches and an half long, the other eight: The length of the whole Foot from the end of the heel eleven Inches. The longer Toe was covered with twenty four great, disjoyned, annulary ſcales. This Toe is armed with a great, ſtrong, black Claw; the other or outer Toe had no Claw in the Bird we deſcribed. The Toes are connected with a thick, ſtrong membrane as far as the firſt joynt.

It ſwallows Iron, Leather, Graſs, Bread, Hair, and whatever elſe you offer it, promiſcuouſly: Howbeit it doth not concoct Iron and other hard things, but avoids them entire by ſiege. That we ſaw at *Bruxels* was uſually fed with bread mixt with hair. *Africa* produces this bird; in the Deſarts whereof are ſometimes ſeen ſuch multitudes of them in company, that to them that behold them afar off they ſeem to be Troops or Armies of horſemen. They are alſo found abundantly in *Arabia*; and not leſs plentifully in *America*, but of a different kind; as will appear by and by.

They lay very great Eggs, *viz.* ſometimes as big as a young Childs head, and of fifteen pound weight, covered with a very hard and ſtony ſhell, which being buried in the ſand, are cheriſhed only by the heat of the Sun till the Young be excluded. For the Writers of Natural Hiſtory do generally agree, that the old birds after they have layed and covered their Eggs in the ſand forſake them, and take no more care of them.

That Oſtrich-feathers were much uſed by the Ancients for the adorning of Caps, Helmets, *&c.* is manifeſt by the teſtimony of *Pliny*: And that ſtill they retain their eſteem, being alſo uſed now adays for the ſame purpoſes every body knows. They were alſo formerly wont to be employed, not only in *Italy*, but in *England*, for to make Fans for Gentlewomen, to cool themſelves withal in the Summer time.

§. II.

* *The American Oſtrich, called* Nhanduguacu *by the Braſilians*, Marggrav.

THis ſort is ſomewhat leſs than the *African*: Their Legs are long, the lower about a foot and half, the upper a foot. They have three Toes in each foot, armed with thick, black, but not ſharp Claws. One Toe ſtanding backward, which is round and groſs; ſo that they can hardly walk on a ſmooth or boarded floor, but eaſily ſlip and fall. They carry their Necks bending like a *Swan* or *Stork*, being about two foot in length. Their Heads are like thoſe of *Geeſe*. They have fair black Eyes: A compreſſed or flat Bill, not very broad, two inches and an half long. They have little Wings, unfit for flight, one of which they ſpread and ſet up like a ſail, to aſſiſt them in running, which they do with that ſpeed and ſwiftneſs, that a good Greyhound can hardly overtake them. Their whole body is covered with grey feathers, which

which are longer and more beautiful on the Back. The body with the feathers appears almost round. They have not such a Tail made up of crested feathers, as is represented commonly in the Pictures of *Ostriches*; but the feathers are stretched forth along the Back even to the vent. It swallows bits of Iron, Brass-mony, Dice, or any the like things you offer it, but concocts them not, casting them out again by siege. It feeds on fruits and flesh. It is frequent in the fields of the * *Capitania* of *Serigippo*, and the *Capitania* of *Rio grande*. In *Fernambuco* it is not found. Its flesh is good to eat.

* Captainship.

§. III.

The Cassowary or Emeu of Aldrovandus, Clusius, Nierembergius, Bontius *and* Wormius.

WE have seen four birds of this kind at *London*; three Males, and one Female: *viz.* one Male among his Majesties birds kept in St. *James's* Park near *Westminster*; two Males and a Female at Mr. *Maydstons*, an *East-India* Merchant in *Newgate-Market*, brought out of the *East Indies*. It hath a horny Crown on the top of the Head. The Head and Neck are bare of feathers, only thin-set with a hairy down. The skin is of a purplish blue colour, excepting the lower part of the backside of the Neck, which is red, [or of a Vermilion colour.] In the lower part of the Neck hand down two Wattles or Lobes of flesh as low as the Breast. It hath a very wide mouth. The Bill is near four inches long, of a moderate thickness, and streight. The Legs are thick, and strong. It hath three Toes in each foot, all standing forward, for it wants the back-toe. The Claw of the outmost Toe is much longer than the rest. It hath some rudiments of Wings rather than Wings, consisting of only five naked shafts of feathers, somewhat like *Porcupines* quils, having either no Webs and feathery parts, or which were in the Bird we described broken and worn off. It hath no Tail; a great body invested with blackish or dusky feathers, of a rare texture, which to one that beholds the Bird at a distance seem rather to be hairs than feathers. It is a gentle-natured bird, and easily made tame. We shall give the Reader a more full and accurate description of all its parts out of *Clusius* his Exotics. This Bird (saith he) as it walked, holding up its head, exceeded the height of four foot by some inches: For the Neck from the top of the Head to the beginning of the Back was almost thirteen inches long; the body two foot over; the Thighs with the Legs to the bending of the Feet seventeen inches long. The length of the body it self from the Breast to the Rump was almost three foot. The feathers covering the whole body, with those on the lower part of the Neck next to the Breast and Belly, and the Thighs were all double, two coming out of the same small short pipe or hose, and lying the one upon the other; the upper being somewhat the thicker or grosser, the nether the more fine and delicate: They are also of a different length, as I observed in the case of the like Bird. For those on the lower part of the Neck were shorter; those on the middle of the body and sides longer (*viz.* of six or seven inches:) But those on the extreme or hind-part of the body about the Rump (for it wanted the Tail) nine inches long, and harder than the rest. Although they are all hard or stiff, yet are they not broad but narrow, with thin-set filaments opposite one to another on each side; of a black colour, but about the Thighs tending to cinereous, the shaft only remaining black, as in the rest. These feathers had that form and situation, that to those that behold the Bird afar off, its skin might well be thought to be covered not with feathers, but only with hairs, seeming like to a *Bears*; and to want Wings; though indeed it had Wings, lying hid under the feathers covering the sides, furnished with * four greater feathers of a black colour, as I observed in the case, though they were so broken at the tops, that I could determine nothing certainly concerning their length. But their broken shafts were pretty thick, hard and solid, and ran deep down into the outmost part of the Wing. The upper part of the Wing next the body had its covert feathers like those on the Breast. For it is to be thought, that this kind of Wings are given to this Bird to assist her and promote her speed in running: For I believe she cannot fly, nor raise her self from the earth: [He might have been more positive in this, for it is most certain.] The Legs in compass exceeded five inches, and were covered with many as it were barks or broad scales, especially above the bending of the foot. It had thick, hard Feet, divided into three thick Toes, on the upper part covered with scales, underneath altogether callous: The middle (which was longer than the rest) consisted of three joynts, the interiour of one, the exteriour of

* We observed five shafts of feathers in each Wing.

of two. The Claws of all were very great, almoſt two inches long, thick, hard, and horny. The Head was ſmall for the bigneſs of the bird, and almoſt bald or ſmooth, of a dark Purple colour, together with the upper part of the Neck, in which appeared thin-ſet, black hairs. The Eyes a little above the ſlit of the Bill, great, and firy, almoſt like to thoſe of Lions, compaſſed with black hairs, as are alſo thoſe ſmall, open Ear-holes which it had behind the Eyes. The upper Chap of the Bill was as it were arched or bent like a Bow, a little above the point perforate with two holes, ſerving for Noſthrils; from the middle whereof, reaching to the top of the Head, ariſes a kind of towring Diadem or Crown, of a horny ſubſtance, near three inches high, of a dusky yellow colour; which, as I underſtood, falls off at moulting time, and grows up again with the new feathers. The nether Chap of the Bill from the *ſlit to the utmoſt point was five inches long. The fore-part of the Neck, almoſt four inches below the Bill, had as it were two membranous Wattles hanging down like a beard, two inches long, of a red Vermilion colour. The back-part of the Neck was likewiſe deſtitute of feathers, from the Head all along, being alſo of a red Vermilion colour: The lower part was covered with ſome few red feathers, wherewith black ones were intermingled.

*I ſuppoſe he means from the corners of the ſlit of the mouth.

This Bird, although it ſeem to have ſome marks common with the *Oſtrich*, as a ſmall Head, almoſt bald; and that without choice it ſwallows whatever you offer it; yet hath it not feet divided into two Toes like them, but into three, wanting the back-toe, after the manner of the *Buſtards*: And therefore ſo firm and ſtrong, that I have ſeen a tree of the bigneſs of a mans thigh wholly cruſhed, and its bark taken away (as its Maſter told me) by the Feet and Claws of this bird. For it was not wont to aſſault thoſe with whom it fought, with its Bill, running forward; but turning it ſelf obliquely or ſideways, to ſtrike backward with its Feet.

But although it devoured indifferently whatever was offered, as *Oranges* entire, and the like, yet its ordinary food was white bread, which it ſwallowed divided into great lumps or morſels. But I was informed, that it was eſpecially delighted with new-laid Hens Eggs, which it ſwallowed whole together with the ſhell. But if it were not in perfect health, it avoided them again entire, and then ſwallowing them anew the ſecond time, it retained and concocted them. Moreover they affirmed to me, that this bird was a Cock, and that it was ſometimes ſeen to put forth a *penis* from behind like a *Camel*. An Egg of this bird, the greateſt and faireſt among many that I ſaw, being meaſured longways was fifteen inches in circuit, croſs-ways but twelve, or a little more: So that for its bigneſs it might be imployed and uſed for a veſſel, as well as an *Oſtriches*, which, (as *Pliny* teſtifies) the Ancients did ſometimes uſe, and our Age alſo ſtill doth for that purpoſe. For I remember that I have more than once ſeen *Oſtriches* Eggs, tipt with, and ſet in Silver, made uſe of for drinking Cups. Howbeit the Shell of this Birds Egg was not very thick nor white, like the Shells of *Oſtriches* Eggs, but in the outſide of a greeniſh aſh-colour, adorned with continuous, at leaſt very thick-ſet ſmall protuberances of a deep green. Of the reſt which I ſaw one was almoſt of the ſame bigneſs, form, and colour with that deſcribed; but ſome were more round, others leſſer; the colour alſo of ſome was more dilute, and leſs elegant. Moreover, it was told me, that this ſort of Bird is not peculiar to the *Molucca* Iſlands, but found alſo in *Sumatra* or *Taprobane*, and the neighbouring Continent to thoſe Iſlands. Thus far *Cluſius*.

The Hen is much leſs than the Cock, of a dark Olive or dusky colour. *It ſeems to be a miracle in nature* (ſaith *Aldrovandus*, who borrowed his deſcription out of the Journal of a *Holland* Voyage) *that this bird wants a Tongue. Whatever it eats it ſwallows.* This is not ſo very wonderful; for we know other Birds beſides this which want the Tongue, as for example, The *Pelican*, &c. Whatever other Authors have concerning the *Emeu*, as far as I have read, is all tranſcribed out of *Cluſius*: Excepting Dr. *Harvey*, who doth briefly deſcribe this Bird from ocular inſpection; adding, that it ſwallows even live coals: And I have obſerved a Cut of it in the Tables of birds ſet out by *Viſcher*, with this Inſcription, *Avis ignem devorans*; *i. e.* The bird that eats or devours fire.

§. IV.

§. IV.

The Dodo, *called by Clusius* Gallus gallinaceus peregrinus, *by Nieremberg* Cygnus cucullatus, *by Bontius* Dronte.

THis Exotic Bird, found by the *Hollanders* in the Island called * *Cygnæa* or *Cerne* by the *Portugues*, *Mauritius* Island by the *Low Dutch*, of thirty miles compass, famous especially for black Ebony, did equal or exceed a *Swan* in bigness, but was of a far different shape: For its Head was great, covered as it were with a certain membrane resembling a hood: Beside, its Bill was not flat and broad, but thick and long; of a yellowish colour next the Head, the point being black: The upper Chap was hooked; in the nether had a bluish spot in the middle between the yellow and black part. They reported that it is covered with thin and short feathers, and wants Wings, instead whereof it hath only four or five long, black feathers; that the hinder part of the body is very fat and fleshy, wherein for the Tail were four or five small curled feathers, twirled up together, of an ash-colour. Its Legs are thick rather than long, whose upper part, as far as the knee, is covered with black feathers; the lower part, together with the Feet, of a yellowish colour: Its Feet divided into four toes, three (and those the longer) standing forward, the fourth and shortest backward; all furnished with black Claws. After I had composed and writ down the History of this Bird with as much diligence and faithfulness as I could, I hapned to see in the house of *Peter Pawius*, primary Professor of Physic in the University of *Leyden*, a Leg thereof cut off at the knee, lately brought over out of *Mauritius* his Island. It was not very long, from the knee to the bending of the foot being but little more than four inches; but of a great thickness, so that it was almost four inches in compass, and covered with thick-set scales, on the upper side broader, and of a yellowish colour, on the under [or backside of the Leg] lesser and dusky. The upper side of the Toes was also covered with broad scales, the under side wholly callous. The Toes were short for so thick a Leg: For the length of the greatest or middlemost Toe to the nail did not much exceed two inches, that of the other Toe next to it scarce came up to two inches: The back-toe fell something short of an inch and half: But the Claws of all were thick, hard, black, less than an inch long; but that of the back-toe longer than the rest, exceeding an inch. The Mariners in their dialect gave this bird the name of *Walghvogel*, that is, a nauseous, or yellowish bird: Partly because after long boyling its flesh became not tender, but continued hard, and of a difficult concoction; excepting the Breast and Gizzard, which they found to be of no bad relish; partly because they could easily get many *Turtle-Doves*, which were much more delicate and pleasant to the Palate. Wherefore it was no wonder that in comparison of those they despised this, and said they could well be content to be without it. Moreover they said, that they found certain stones in its Gizzard: *And no wonder, for all other birds as well as these swallow stones, to assist them in grinding their meat.* Thus far *Clusius*.

* That is the Swan Island.

* *Bontius* writes, that this Bird is for bigness of mean size, between an *Ostrich* and a *Turkey*, from which it partly differs in shape, and partly agrees with them, especially with the *African Ostriches*, if you consider the Rump, quils, and feathers: So that it shews like a Pigmy among them, if you regard the shortness of its Legs. It hath a great, ill-favoured Head, covered with a kind of membrane resembling a hood: Great, black Eyes, a bending, prominent, fat Neck: An extraordinary long, strong, bluish white Bill, only the ends of each Mandible are of a different colour, that of the upper black, that of the nether yellowish, both sharp-pointed and crooked. It gapes huge wide, as being naturally very voracious. Its body is fat, round, covered with soft, grey feathers, after the manner of an *Ostriches*: In each side instead of hard Wing-feathers or quils, it is furnished with small soft-feathered Wings, of a yellowish ash-colour; and behind the Rump, instead of a Tail, is adorned with five small curled feathers of the same colour. It hath yellow Legs, thick, but very short; four Toes in each foot, solid, long, as it were scaly, armed with strong, black Claws. It is a slow-paced and stupid bird, and which easily becomes a prey to the Fowlers. The flesh, especially of the Breast, is fat, esculent, and so copious, that three or four *Dodos* will sometimes suffice to fill an hundred Seamens bellies. If they be old, or not well boyled, they are of difficult concoction, and are salted and stored up for provision of victual. There are found in their stomachs stones of an ash-colour of divers figures and magnitudes; yet not bred there as the common people and Seamen

* *Hist. Natur. & Medic. Indiæ Orientalis.* lib. 5. cap. 17.

fancy, but ſwallowed by the Bird; as though by this mark alſo Nature would manifeſt, that theſe Fowl are of the *Oſtrich* kind in that they ſwallow any hard things, though they do not digeſt them. Thus *Bontius*.

We have ſeen this Bird dried, or its skin ſtuft in *Tradeſcants* Cabinet.

Chap. IX.

Of the Poultry kind.

The characteriſtic notes of the Poultry kind are: 1. To have a ſhort, ſtrong, and ſomewhat crooked Bill, very fit to pick up grains of Corn, Pulſe, and other Seeds, on which this kind chiefly feeds: 2. A thick and fleſhy body: 3. Short, hollow Wings; whence this ſort of birds flies not high, and makes but ſhort flights for the moſt part: 4. A Stomach furniſhed with thick muſcles, whoſe uſe is to grind the grains of Corn, and other hard meat ſwallowed whole, which they perform by the help of little ſtones which the birds now and then ſwallow; and ſo ſupply the defect of Teeth: 5. Very long blind guts: 6. White fleſh, eſpecially that of the muſcles of the Breaſt, which colour after boyling diſcovers it ſelf more manifeſtly. This note is peculiar to this kind, not agreeing to any other bird that I know. This is a ſign that their fleſh is of all other moſt wholſom, and affords beſt nouriſhments: So that it is not undeſervedly had in higheſt eſteem, and ſold deareſt of any other. 7. To breed many young at a time. 8. To build their Neſts upon the ground; the reaſon whereof is becauſe 9. The young ones newly hatched are not fed by their Dams with meat put into their mouths, but are covered with a thick Down, forſake their Neſts, and running up and down follow the old ones, and feed themſelves, picking up their meat with their Bills. 10. Becauſe they are (as we ſaid) corpulent, and cannot fly long, they ſeek their food walking up and down upon the earth, and for that reaſon have broad Toes, that they may ſtand firmer and ſurer, and are for the moſt part good runners. 11. The moſt, if not all birds of this kind, duſt themſelves. 12. The Poultry kind only, but not all the ſeveral *Species* of this kind, are armed with Spurs.

We ſhall diſtinguiſh the birds of this kind into tame and wild: the wild we ſhall ſubdivide into thoſe that have the back-toe and thoſe that want it: Thoſe again that have the back toe, into granivorous and phytivorous, or by a more evident mark, ſuch as have ſcarlet red Eye-brows.

- Birds of the Poultry kind are either
  - *Tame and domeſtic*, as the Peacock, Turkey, Dunghil Cock, *&c.*
  - *Wild* which either
    - *Have* the back toe being
      - *Granivorous*, as the Pheaſant, Partridge, Quail, *&c.*
      - *Phytivorous*, with red Eye-brows, as Cock of the Wood, *&c.*
    - *Want* the back-toe, as the Buſtard, *&c.*

Chap. X.

Of tame Poultry.

§. I.

The Dunghill Cock and Hen. Gallus gallinaceus & Gallina domeſtica.

This Bird called by the *Grecians* Ἀλεκτρυών, and of old by a general name Ὄρνις, is and hath been ſo well known in all Ages and places, that it would be but loſt labour to beſtow many words on the deſcribing of it. By its erect Tail having the component feathers ſo ſituate as to make an Angle or ridge; its fleſhy, naked, ſerrate Comb, and Gills or Wattles hanging down under its Chin, and laſtly,

laſtly, by its long Spurs, it is abundantly diſtinguiſhed from all other birds of its kind, and eaſily known at firſt ſight. The *Dunghil Cock* alone of all diurnal Birds (excepting the *Nightingale*) ſings or crows by night, *viz.* after Midnight two or three times at intervals before break of day. The number of quill-feathers in each Wing, computing all to the very leaſt, is twenty ſeven. The Tail conſiſts of fourteen, which, as far as I know, is peculiar to this *Species:* For the reſt of the Poultry kind have eighteen, or at leaſt ſixteen feathers apiece in their Tails. Of theſe the two middlemoſt are in Cocks the longeſt, and elegantly reflected or arcuate; *Sickle feathers* the Vulgar call them.

The Cock being a moſt ſalacious bird doth ſuddenly grow old, and becomes leſs fit for generation. For his ſpirits being ſpent, and the radical moiſture, as they call it, conſumed, by the immoderate uſe of Venery, his body muſt neceſſarily wax dry, and his heat of luſt be extinguiſhed. *Aldrovandus* writes, that himſelf hath found by experience, that Cocks when they are above three years old do indeed impregnate Hens, but that they become more impotent and inſufficient for ſuch exerciſes. Hens alſo, ſith they do for the greateſt part of the year daily lay Eggs, cannot long ſuffice for ſo many births, but for the moſt part after three or four years become barren and effete. For when they have ſpent all the Seed-Eggs which from the beginning were in their bodies, they muſt needs ceaſe to lay, there being no new ones generated within.

How long theſe Birds would live, were they let alone, I cannot certainly determine, though *Aldrov.* limits their age to ten years. For they being kept only for profit, and within a few years (as we ſaid before) becoming unfit for generation, who is there that without all hope of gain will keep them only to make experiment how long they will live? But that they are in their kind ſhort-lived we may rightly infer from their ſalaciouſneſs and intemperate luſt, which infeebles the body, waſtes the ſpirits, and haſtens the end.

Cocks, being very couragious and high ſpirited birds, that will rather die than yield, are wont by our Countrymen to be with great care and exact diet fed and trained up for the combat. For in Cities and great Towns there are frequent Cock-fightings, yet not upon ſet days, but appointed by the Cock-maſters at their pleaſure, or when they agree among themſelves. Yea, in many places there are Theaters built, (Cock-pits they call them) where ſuch ſhows are exhibited, to which there is commonly a great concourſe of people. There are matches made, and great Wagers laid, beſides bettings on either ſide of great ſums of money, which they carry away whoſe Cocks get the victory. Right and well bred Cocks of the Game, will ſooner die upon the ſpot, than yield and give over the fight, or turn tail and run away.

No better fleſh in the world (in my opinion) than that of a year-old Pullet well fed, or a fat Capon; nothing inferiour to, not to ſay better than that of a *Pheaſant* or *Partridge*. Some there are that think, and we alſo incline to their opinion, that the fleſh of thoſe Hens is moſt ſweet and delicate, which are fed at the Barn-door, running about, and exerciſing themſelves in getting their food, by ſcraping with their feet: And that the fleſh of thoſe is leſs pleaſant and wholſom, that are ſhut up in Coops and cram'd. Some are ſo curious that they think thoſe limbs moſt wholſom which are moſt exerciſed, and therefore in Wild-Fowl they prefer the Wings, in Tame the Legs.

A particular Anatomical deſcription of the *Ovarium*, or Egg-cluſter, the womb and other parts of generation in a Hen may be ſeen in *Aldrovandus* his *Ornithology*, tom. 2. p. 199, *&c.* but a more exact in Dr. *Harvey's Exercitations De Generatione.* Of the Coition of Cock and Hen, laying of Eggs, ſitting, and hatching of Chickens the ſame Authors may be conſulted; as alſo that great Anatomiſt and Naturaliſt *Marcellus Malpighius*, in his little Tractate *de Ovo*, who of all others doth moſt exactly deſcribe the proceſs of generation, or of the formation, and growth of the Chicken in the Egg, during the whole time of incubation, and hath alſo illuſtrated his deſcriptions with Figures. Of the uſe of the fleſh, Eggs, and all other parts of Pullen both in Food and Phyſic, *Geſner* and *Aldrovandus* have writ ſufficiently; to whoſe works we refer thoſe who deſire to know all thoſe particulars.

That the *Lion* is afraid of a *Cock*, cannot endure the ſight of him, yea, is terrified by his very crowing, hath been delivered and received by Ancients and Moderns with unanimous conſent and approbation, and divers reaſons ſought and aſſigned for this antipathy: When as the thing it ſelf is by experience found to be falſe.

We have beheld more than once, not without pleaſure and admiration, a *Capon* bringing up a brood of *Chickens* like a Hen, clocking of them, feeding of them, and

brooding them under his Wings, with as much care and tenderneſs as their Dams are wont to do. And we were told, that he was trained and induced to perform this office, almoſt after the ſame manner that *Jo. Baptiſta Porta* preſcribes, *lib.* 4. *Magiæ Nat. cap.* 26. Firſt, they make him very tame, ſo as to take meat out of ones hand, then about Evening-time pluck the feathers off his breaſt, and rub the bare skin with Nettles, and then put the Chickens to him, which preſently run under his breaſt and belly, and (it is likely) rubbing his breaſt gently with their heads allay the ſtinging and itching of the Nettles; and this they do for two or three nights, till he begin to love and delight in the Chickens. Perchance alſo the querulous voice of the Chickens may be pleaſant to him in miſery, and invite him to ſuccour the miſerable. A Capon once accuſtomed to this ſervice will not give it over, but when one brood is grown up, you may take them away, and put another to him of newly hatcht Chickens, and he ſhall be as kind to them, and take as much care of them as of the former, and ſo others, till all being grown up or removed, he hath been for ſome time idle and diſuſed the employment.

I might be infinite ſhould I proſecute at large all that might be ſaid of this bird, or write a full, exact, and particular Hiſtory of it. If any Reader deſires to know more of it, let him conſult *Aldrovandus*, whoſe deſign was, to omit nothing in his Hiſtory which was either known to himſelf, or had been before publiſhed by others.

This ſame Author in his *Ornithology* gives us many kinds, or rather rarities, of Hens. 1. A common Hen, but white and copped, *lib.* 14. *cap.* 2. 2. A dwarf Hen, or ſhort-leg'd Hen: Which variety is alſo found in *England*, kept by the curious, and called *Grigs*. 3. A *Padua* Cock and Hen: Which ought rather to be called a *Pulverara* Cock and Hen; from *Pulverara* a Village ſome miles diſtant from *Padua*, where they are found. Theſe are larger and fairer Fowl than the common ſort, elſe differ in no particular: Whence alſo if they be removed into other Countries, they do by degrees degenerate, and in a ſhort time [in ſome few generations] come to be of the ſize and and ſhape of the Natives of ſuch places. 4. A rough-footed Cock and Hen, *lib.* 14. *cap.* 5. 5. A *Turkiſh* Cock and Hen, different from ours eſpecially in the variety and beauty of their colours, *cap.* 6. 6. A *Perſian* Cock and Hen, whoſe characteriſtic is the wanting of a Rump or Tail. This kind is alſo kept by ſome among us, and called *Rumkins*. The firſt five varieties, in my opinion, differ not ſpecifically. For theſe Birds by reaſon of the difference of Climate, ſoil, food, and other accidents, vary infinitely in colours, differ alſo in bigneſs, and in having or wanting tufts on their heads, *&c.* Thoſe birds which he deſcribes and gives figures of in the tenth and eleventh Chapters, under the titles of *Another Indian Cock and Hen*, and in the twelfth Chapter under the title of *two other Indian* Hens, are the ſame with the *Mitu* and *Mituporanga* of *Marggravius*, of which we ſhall give an account §. IV.

The Wool-bearing Hen I take to be altogether fabulous, and its figure in *Aldrov. lib.* 14. *cap.* 14. taken out of a certain Map, fictitious. Perchance it was no other than the friſled or *Friſland* Hen, which *Odoricus de Foro Julii* and Sir *John Mandevil* call the Wool-bearing Hen. The birds which *M. Paulus Venetus* makes mention of in theſe words, *In the City* Quelinfu, *in the Kingdom of* Mangi *are found Hens, which inſtead of feathers have hairs like Cats, of a black colour, and lay very good Eggs*, ſeem to be *Caſſowaries*.

Beſides thoſe ſet forth by *Aldrovandus*, we have often ſeen, and our ſelves alſo have now at *Middleton* another kind or variety of Hen, called in *Engliſh* the *Friſland* Hen, not (as I ſuppoſe) becauſe it was firſt brought to us out of *Friſland*, but becauſe the feathers of the body are curled or friſled: By which Epithete I believe this Bird was at firſt called, the word being afterward by the miſtake of the Vulgar corrupted into *Friſland*, of like ſound. For knowing this to be an outlandiſh Hen, they thought it could not be more fitly denominated than from its Country, and thereupon imagined it to be called a *Friſland* Hen, inſtead of a friſled Hen. Nor did they want a probable argument to induce them to think it to be of a *Friſland* breed or original, *viz.* the curling of the feathers, which one would be apt to attribute to the horror of cold. I ſuppoſe this to be the ſame bird which *Aldrovandus* hath put in the Chapter of monſtrous Hens, in the laſt place, whoſe figure he ſaith was ſent him by *Pompilius Tagliaferrus* of *Parma*, with this deſcription. *I would have you to underſtand, that there are two things eſpecially found in this Cock worthy of admiration. The firſt and chief is, that the feathers of its Wings have a contrary ſituation to thoſe of other birds, for that ſide which in others is naturally undermoſt or inmoſt, in this is turned outward, ſo that the whole Wing ſeems to be inverted:*

inverted: The other is, that the feathers of the Neck are reflected towards the head like a creſt or ruff, which way the whole Tail alſo turns up.

A Hen cut aſunder in the middle (in this caſe they prefer a black one) and applied hot to the head, in the phrenſie, headach, *&c.* uſually helps, and gives eaſe: They ſay alſo, that uſed in like manner, it heals the bitings of venomous beaſts. Laid upon Carbuncles it draws out the venom; nor muſt we omit, that it ſtanches the bleeding of green wounds. A live Hen [or Cock] pluckt about the Fundament, and ſo applied to Peſtilential ſwellings called *Bubones*, draws out the venom. The Phyſical uſes of a Hen and its parts.

1. *The Jelly of an old Hen*, made of a Hen cut with Calves feet, and Sheeps feet, or Beef, boiled ſix or ſeven hours in a cloſe veſſel, to which you may add Spices, or Cordial waters, is a great ſtrengthener and nouriſher.

2. *Cock-Ale* is made of Hens fleſh, boiled till the fleſh falls from the bones, then it is beaten with the bones, and ſtrained for Wine or Ale with Spices. Note. *The fleſh of Hens is better than that of Cocks, except Capons. The fleſh of a black Hen, that hath not laid, is accounted better and lighter.*

3. *Cock-broth* is thus made: Tire an old Cock till he fall with wearineſs, then kill and pluck him, and gut him, and ſtuff him with proper Phyſic, and boil him till all the fleſh falls off, then ſtrain it. This broth mollifies, and by means of the nitrous parts wherewith that decrepite Animal is endued, and which are exalted by that tiring of him, cuts and cleanſeth, and moves the belly, the rather if you boil therein purging Medicines. It is famous for eaſing the pains of the Colic (boiled with purgers and diſcutients) good againſt a Cough and Tartar of the Lungs (boiled with breaſt herbs.)

4. *The Brain* thickens and ſtops fluxes, as that of the belly (taken in Wine,) Women anoint therewith the gums of Children, to make them breed teeth.

5. *The inward tunicle of the ſtomach*, dried in the Sun, and powdered binds and ſtrengthens the ſtomach, ſtops vomiting and fluxes, and breaks the ſtone.

6. *The Stones* are ſaid wonderfully to reſtore ſtrength after ſickneſs, and to yield prolific ſeed, to provoke and increaſe luſt (taken freſh) and to cure Fevers.

7. *The Gall* takes off ſpots from the skin, and is good for the Eyes.

8. *The Greaſe* of Hen or Capon is hot, moiſt, and ſoftning, between the *Gooſe* and *Hogs* greaſe, and obtunds Acrimony, cures chapt lips, pains in the Ears and puſtles in the Eyes.

9. *The Weaſand* of a Cock, burt and not conſumed, given before Supper, cures piſſing of bed. *Solenand. ſ. 4. Conſ. 11.*

10. *The Dung* doth all the ſame that the Pigeons, but weaker: and beſides, cures the Colic and pain of the Womb. Moreover, it is good eſpecially againſt the Jaundiſe, Stone, and ſuppreſſion of Urine.

Note. *The white part of the Dung is eſteemed the beſt.*

Give half a drachm Morning and Evening for four or five days. *Quercet. Pharmac. Reſt. c. 21.*

Outwardly it dries running heads, and other ſcabs (*the aſhes ſprinkled on.*)

The yellow dung cures the Ulcers of the Bladder, fried in freſh Butter or Oyl olive, and caſt into cold water, to let the filth ſettle, that the Oyl may ſwim, which * is to be caſt into the Yard. *The Oyl thus impregnate.

11. *The Eggs* are uſed, the Shells, Membranes, Whites, Yolks.

The Shells break the Stone, and cut tartareous mucilage.

The membranes are diuretic, given inwardly, or outwardly applied, (*and are laid on the prepuce of infants.*)

The White cools, binds, and conglutinates. It is of frequent uſe in the redneſs of the Eyes, and for healing of wounds (*with hole*) and fractures, *&c.*

Note. *Hippocrates gives three or four Whites in Fevers to cool and cleanſe.*

The Yolk is Anodyne, ripens, digeſts, looſens, and is very much uſed in Clyſters. Moreover, mingled with a little Salt it is wont to be laid on Childrens Navels (*in a Walnut ſhell*) to give a ſtool.

There is an Oyl made of it, which is of frequent uſe in conſolidating and cloſing up wounds, and chaps, and the ripening of tumors.

§. II.

A Peacock, Pavo, Ταὼς.

THis Bird is ſo well known every where, and ſo ſufficiently characterized by the length and glorious eye-like ſpots of his Tail alone, that it may perchance ſeem ſuperfluous to beſtow many words on deſcribing of it. I ſhall therefore only preſent the Reader with *Aldrovandus* his deſcription.

In the Cock (ſaith he) the Head, Neck, and beginning of the Breaſt are of a deep blue. The Head in proportion to the body little, and (as *Albertus* notes) in a manner Serpentine, adorned with two oblong white ſpots, the one above the Eyes, the other, (which is the leſſer, but much the thicker) under them, which is alſo ſucceeded by a black one; elſe, as I ſaid, blue. It hath a tuft on the top of its head, not entire, as in ſome other birds, but conſiſting of a kind of naked, but very tender, green ſtalks or ſhafts of feathers, bearing on their tops as it were Lily-flowers of the ſame colour. Of which moſt beautiful tuft or creſt thus *Pliny*, *Pavonis apicem crinitæ arbuſculæ conſtituunt:* And indeed they ſeem not to be feathers, but the tender ſhoots of Plants newly put forth. The Bill is whitiſh and * ſlit wide, being a little crooked at the tip, as it is in almoſt all granivorous birds, and in it wide Noſthrils: The Neck long, and for the bigneſs of the Fowl very ſlender. The Back of a pale aſh-colour, beſprinkled with many tranſverſe black ſpots. The Wings cloſed (for ſpred I cannot ſee them, who deſcribe it painted by the life) above towards the Back are black, lower towards the Belly and within ſide red. The Tail is ſo diſpoſed, that it is as it were divided into two. For when he ſpreads it round, certain leſſer feathers making as it were an entire Tail by themſelves, and being of another, to wit, a dusky colour, do not ſtand up like thoſe long ones, but are ſeen extended as in other birds: So that without doubt the longer muſt needs be inſerted into another muſcle, by help whereof they are ſo erected and ſpread. Theſe long feathers, (as *Bellonius* writes) ſpring out of the upper part of the Back near the vent, that is, out of the Rump: And thoſe other leſſer ones are made by Nature to ſupport the longer. The Rump is of a deep green, which together with the Tail it erects; the feathers whereof are ſhort, and ſo diſpoſed, that they do as it were imitate the ſcales of an *Æthiopian* Dragon, and cover and take away the ſight of part of the long feathers of the Tail. The longer feathers are all of a Cheſnut colour, beautified with moſt elegant gold lines tending upward, but ending in tips of a very deep green, and thoſe forked like *Swallows* Tails. The circular ſpots, or (as *Pliny* calls them) the eyes of the feathers, are particoloured of a deep green, ſhining like a Chryſolite, a Gold and Sapphire colour. For thoſe Eyes conſiſt of four circles of different colours, the firſt a golden, the ſecond a cheſnut, the third a green: The fourth or middle place is taken up by a blue or Sapphire coloured ſpot, almoſt of the figure and bigneſs of a Kidney-bean. The Hips, Legs and Feet are of an aſh-colour beſprinkled with black ſpots, and armed with ſpurs after the manner of *Dunghil-Cocks*. The Belly near the Stomach is of a bluiſh green, near the vent it is black, or at leaſt of a dusky colour.

* The ſlit of the mouth he means.

In the *Peahen* there is little variety of colours. The whole Wings, Back, Belly, Thighs and Legs are of a dusky colour, inclining to cinereous. The Crown of the Head and Creſt are of the ſame colour; yet in the top of the Head are ſome ſmall ſpots, as it were points of green diſperſed. Thoſe white ſpots we noted in the Cock are in the Hen far greater. The circle encompaſſing the Pupil of the Eye in the Cock is yellow, in this of a lead-colour. The Chin is wholly white. The feathers of the Neck are waved and green; near the Breaſt they have their extremities white.

Their Food is the ſame with that of the common Cock and Hen: But they do eſpecially delight in Barley. *Albertus* ſaith, that *Peacocks* eat Serpents, whence it is no wonder that Serpents ſhould be terrified with their voice. That they were originally exotic birds, and of old time brought out of *India* into *Europe* is moſt probable, though now adays they are every where very frequent.

It is proper to this Bird only, the *Turkey* excepted, to erect his Tail, and ſpread it round, as if it delighted and took pride to have the gliſtering Eyes thereof beheld: But that he doth it upon being commended, and that ſo ſoon as he caſts down his Eyes and ſees the deformity of his Feet, out of ſhame he preſently lets fall and contracts his Tail, as if he were not altogether devoid of reaſon, is without doubt falſe and fabulous.

Its

Its flesh is esteemed harder, colder, drier, and of more difficult concoction than that of Hens. That being boiled or roast it will not putrefie, but keep a year or more uncorrupt, is commonly believed, and proved by an experiment made by St. *Augustine*, who in his 21. Book of the *City of God*, Chap. 2. writes thus: *Who but God the Creator of all things gave to Peacocks flesh a faculty of not putrefying: Which thing at first hearing seeming to me incredible, it hapned that at* Carthage *there was set before us a roasted Peacock; of the brawn of whose breast we caused to be kept so much as we thought convenient: Which being produced after so many days space as any other roasted flesh would corrupt in, did not at all offend our Nose. Being laid up again, after more than thirty days it was found the same as before, and likewise the same after a year, save that it was somewhat drier, and a little contracted or shrunk.* To us it seems not so wonderful that the flesh of a Peacock, which is of it self sufficiently hard and solid, being rendred harder and drier by roasting should continue a long time uncorrupted in a hot Country, such as *Africa* is, especially if care be taken, that in moist and rainy weather it take no wet, but be kept always dry; and I doubt not but the same would happen to *Turkeys* flesh, or even to *Pullets* flesh boiled or roasted. Let them abstain (saith *Aldrov.*) from eating *Peacocks* flesh who live a sedentary or idle life, using no exercise: For it is more agreeable, or at least less hurtful to those that exercise much, [I mean the flesh of young *Peacocks* only, as being more tender] but to those that are liver-grown, or troubled with the Spleen, or with the Piles very noxious. But in my opinion, and to my Palate the flesh of young *Peacocks* is very tender, delicate, and well tasted, purely white, and deservedly had by the *Romans* of old in high esteem, and price, nothing inferiour to that of *Hens* or *Partridge*.

Aristotle writes, that *Peacocks* lay twelve Eggs, but with us they seldom lay more than five or six before they sit.

They are pestilent things in Gardens, doing a world of mischief: They also throw down the Tiles, and pluck off the Thatch of houses. The *Peacock* (saith *Aldrovandus*) though he be a most beautiful bird to behold, yet that pleasure of the Eyes is compensated with many an ungrateful stroke upon the Ears, which are often afflicted with the odious noise of his horrid, or, as he calls it, * hellish cry. Whence by the common people in *Italy* it is said to have the feathers of an Angel, but the voice of a Devil, and the guts of a Thief. It is said (and I can easily believe it) to produce its life to an hundred years. The *Peacock*, saith *Columella*, is no less salacious than the Dunghil-Cock, and therefore requires five Hens: Yea, if there be no other Female for him to couple withal he will run upon and tread the sitting Hen, and break her Eggs, whereof she being conscious, endeavours as much as she can to hide her Nest from him. This bird is said to love cleanliness. It sometimes varies in colour, being found white, especially in Northern Countries.

* Tartareous voice.

§. III.

The Turkey. Gallopavo, sive Meleagris & Numidica avis.

THe *Turkey* being now so well known, and become so common every where in *Europe*, needs no very minute and operose description, wherefore we shall content our selves with that of *Peter Gyllius*, sufficiently exact of it self, and made up and perfected by *Aldrovandus*, by the addition of whatsoever worthy the observation was by him omitted; which runs thus:

It is as tall as a *Peacock*. Its Neck together with its Head is altogether bare of feathers, and only covered with a purplish-coloured skin; so very thick, that when it cries, or prides it self, it so stretches, and as it were blows up the skin, that before hung loose and flaggy, that it approaches to the bigness of a mans arm. The Crown of the Head is particoloured of white, blue, and purple. It hath no Crest or Comb like a Cock, but a certain red, * fleshy *Appendix*, arising above the upper Chap of the Bill, which is sometimes extended to that length, that it not only reaches all along the declivity of the upper Chap, but hangs down below the tip of the Bill at least an inch, so that the Bill is covered with it, that it cannot be seen but sideways. This *Appendix* when it walks or feeds it contracts to that shortness, that whereas before it hung down an inch lower than the Bill, now being shrunk up it falls short of the length of the Bill it self. The feathers of this bird do somewhat resemble a Hawks, and have their ends white. It hath very long Legs. Its Toes and Claws have the same distinction and figure with the *Dunghil-Cock*. The body of that I saw was round, and taller

* Worm-like Caruncle.

taller than a *Peacocks*. Round about the Eyes it was of a florid blue and purple colour. The Eyes themſelves were indued with a very quick and ſharp ſight, like thoſe of *Hawks*. The Cock when any one came near the Hen, briſtled up his feathers, and by his ſuperb gate, ſtrutting up towards him, endeavoured to drive him away. The Hen was white, and reſembled a *Peacock* when he hath caſt the feathers of his Tail. Thus far *Gyllius:* In which deſcription, ſaith *Aldrovandus*, are two notes of no ſmall moment wanting: *viz.* That its Legs * want Spurs, and that the Cock is differenced from the Hen, when they are come to their full growth and maturity, by a briſtly buſh or beard before his Throat, or in the upper part of his Breaſt: Add hereto, that the worm-like Caruncle on the Head is in the Hen very ſmall. What he ſaith of their feathers being like *Hawks*, is to be underſtood by reaſon of their many ſpots, wherein the likeneſs conſiſts.

* In our obſervation they want not ſpurs, though they have indeed but ſhort and blunt ones.

To this we may further add, that the Tail of a *Turkey* is made up of eighteen feathers; that each Wing hath twenty eight prime feathers or quils: That the Legs have ſmall Spurs, or rather certain rudiments of Spurs, and thoſe very conſpicuous and plain to be ſeen, however *Aldrovandus* writes that they do altogether want Spurs. Their Eggs are white, but thick-ſpeckled with ſordid yellowiſh red ſpots, much like to the freckles of the face of a man.

This ſtately Fowl at firſt ſight from the ſhape of its body, and alſo from its conditions, one would take to be rather of the *Hen* than the *Peacock* kind, ſaith *Aldrovandus:* To me it ſeems to be more like the *Peacock* than the common *Cock*, in its bigneſs and ſtature or tallneſs, in the manner of carrying its Tail, but eſpecially of ſetting it up and ſpreading it, as if both it ſelf admired it, and took pride in ſhewing it to others.

That theſe birds were the *Meleagrides* of the Ancients, as alſo their *Gallinæ Africanæ & Numidicæ guttatæ*, *Aldrovandus* takes much pains to prove. In *Engliſh* they are called *Turkeys*, becauſe they are thought to have been firſt brought to us out of *Turkey*.

Turkeys love hot Countries: yet they can bear cold ones well enough, after they are grown up and have been uſed to them: But their young Chickens are very neſh and tender, and not to be reared without great care and attendance.

"Their fleſh is very white and delicate, a diſh becoming a Princes feaſt, ſaith "*Aldrovandus*, if it be well concocted yielding a plentiful and firm nouriſhment; of "the ſame taſte and quality with that of a *Peacock*, and as difficult to concoct, unleſs "its hardneſs be before by ſome means corrected. This is to be underſtood of old and well grown *Turkeys*, for *Turkey*-pouts and young *Turkeys* are tender enough, and of eaſie concoction.

The antipathy this Fowl hath againſt a red colour, ſo as to be much moved and provoked at the ſight thereof, is very ſtrange and admirable.

§. IV.

The Braſilian Mitu *or* Mutu *of Marggrave.*

THis Bird, ſaith *Marggrave*, is of the *Pheaſant* kind; the *Spaniards* alſo (as *Nierembergius* tells us) call it a *Pheaſant*. *But we, partly for its bigneſs, partly for its colour, partly alſo for its gentle nature, eaſily becoming tame, but chiefly for that it ſpreads its Tail in like manner * circularly, think that it ought rather to be ranked with the Peacock and Turkey, to which we have therefore ſubjoyned it.* It is bigger than the common *Cock* or *Hen*. The length of its body from the Neck to the riſe of the Tail is ten inches: The length of the Neck ſix inches. It is all over covered with black feathers, except on the Belly and under the Tail, where it is of a brown colour, almoſt like that of a *Partridge*. The feathers on the Head, Neck, and Breaſt are finer than the reſt, and for ſoftneſs and beauty comparable to black Velvet. On the top of the Head it hath black feathers complicated into a very low and flat cop, which one that careleſly beheld the Bird would ſcarce take notice of, but when it is angry, or on other occaſions it can erect them into a conſpicuous creſt. It hath a remarkable Bill, not thick, crooked, about an inch and half long: The lower Chap is ſmall, the upper almoſt four times bigger. The Bill is of a very bright carnation colour, but toward the tip white. Its * Legs are like a *Hens*, ten inches long, to wit, four from the Feet to the Knees, and ſix above them, where they are covered with black feathers. It hath alſo four Toes, like a *Hens*, which from their riſe to the firſt joynt are connected by an intervenient

* If I underſtand *Marggrave* aright.

* Under this word he comprehends alſo the thighs.

venient skin, as in some other birds. It hath a Tail a foot long, like a *Turkeys*, which it always moves in breadth; crying *Kit Kit* like them: A well-shaped Head like a *Gooses*; a Neck about six inches long, as was before said: Brave, great black Eyes; and behind the Ears a white naked spot like a Hen. It is easily made tame; it roosts willingly on high upon trees like *Turkeys*. Finally, it hath very good and savoury flesh.

The Pauxi *of Nieremberg, the* Indian Hen *of Aldrovandus*, lib.4. cap.12. *a variety of the Mitu.*

It was (saith *Nieremberg* out of *Fr. Hernandus*) of the bigness of a *Dunghil-Cock*, or something bigger: Its feathers were of a black colour, but shining, and almost like a *Peacocks*: Its Bill red, crooked, and like a *Parrots*, &c. What was most remarkable in, and peculiar to this Bird was a certain tumour fastened to the root of its Bill, where it was more slender, of the shape of a Pear, of the hardness of a stone, and of a blue colour, like that of the stone called *Cyaneus* or the *Turcois*.

Aldrovandus describes his * *Indian* Hen, from a Picture, as I suppose, in this wise. From the Bill to the end of the Tail (which was white, and striped with black lines) it was black, which blackness yet did every where incline to blue. The vent and beginning of the Tail underneath were white. Its Bill was strong, crooked, and red. Its Legs were almost of the same colour, but much paler, and in their hind part inclining to blue. The Claws were black. It carried on its forehead a great protuberance, of the shape of a Fig, and of a bluish colour. The Tail was long, not erect, as in our common *Cocks* and *Hens*, but extended in length, as in a *Pie*.

* *Ornithol.* lib.14. cap.12.

These birds differ not from the *Mitu* in any thing almost but that protuberance or excrescence at the beginning of the Bill. *Nierembergius* also makes mention of this variety in his tenth *Book*, *Chap.*75. The *Pauxi*, saith he, (for so he there calls this Bird) hath a great head, which in some is plain or smooth, in others crested; in others instead of a crest of feathers arises a stone or globular body (a stone they call it though it be not over-hard) like an Egg, or bigger, of the colour of Soder. I wonder that *Marggrave* should make no mention of this bunch: Surely it was wanting in all the birds he saw. Whether this Bird be a *Species* distinct from the *Mitu*, or only accidentally different, we refer to further inquisition.

§. V.

The other Indian Cock of Aldrovandus, Mituporanga *of Marggravius*; Tepetototl *of Nierembergius.*

THere is also found (saith *Marggrave*) another kind of * this Bird, which the *Brasilians* call *Mituporanga*, differing only in the Bill and feathers of the Head. This kind hath no long Bill, but an indifferently thick one, yet not so * high as the *Mitu*, nor so crooked: The tip of both Chaps is black, all the rest of the Bill covered with a Saffron-coloured skin; the like whereto it hath also about the Eyes. It hath goodly, black Eyes. The Head and Neck covered with feathers of a deep black, like Velvet. On the top of the Head it hath curled feathers, twisted or turning up spirally, as far as the beginning of the Neck; which it can erect in the manner of a curled or frisled crest. All the rest of the Bird is black, wherewith is here and there mingled a gloss of green. About the vent it hath white feathers. The Legs are cinereous, and of the figure of the *Mitu*'s. The Tail black, but the extremities of its feathers white. This Bird also easily becomes very tame and familiar.

* The *Mitu*.

* Or perchance deep, *altum* the word is.

Of this Bird *Nierembergius* * writes thus. The fawning and familiarity of Dogs doth not exceed the officiousness of the *Tepetototl* or Mountain Bird, which others call, *Tecuecholi*, and the *Spaniards* Natives of *America* a *Pheasant*, which is very tame and domestic: It is a bird of the bigness of a Goose, of a black shining colour; yet having some feathers white underneath, about the Tail, at the ends of the Wings; ash-coloured Legs and Feet; a crooked Bill, partly cinereous, and partly yellow, and about its root as it were swelling out; a folded or curled crest; black Eyes, but a pale *Iris*. It is fed with Corn, made up into a mass or loaves, and baked, and with such like meat. Its flesh is fat, and good to eat, and not unlike that of well-fed *Turkeys*. It is a very gentle Creature, and loving to man, and begs its food, when an hungry, by catching hold of the cloths of those that it lives in the house with:

* *Lib.*10. *cap.*68.

And when it hath occaſion to go into any Room, if the door be ſhut, it knocks at it with its Bill. If it can, and be permitted, it follows its Maſter; and when he comes home, receives him with great expreſſion of joy and clapping its Wings.

* *Lib.* 14. *cap.* 10. *Aldrovandus** deſcribes and ſets forth the figure of this Bird under the title of *Another Indian Cock*. The whole body (ſaith he) of this Bird was of a deep black: It wanted both Spurs and Tail, as alſo the Comb: Inſtead of which it had on its Head curled feathers. Its Bill was of two colours, partly yellow, to wit, toward the Head, partly black. The upper Chap of its Bill hooked. Where in other Cocks the holes of the Noſthrils are, there this Bird had a certain yellow protuberance, of the

* *Tabellæ* he calls them. bigneſs of a Cherry. The Legs and Feet were covered with whitiſh* annulary ſcales. Alſo ſome ſmall feathers near the vent were white.

If this Bird be rightly deſcribed by *Aldrovandus*, it ſeems ſo to differ from the *Mituporanga* of *Marggrave*, as his *Indian* Hen above deſcribed doth from the *Mitu*, *viz.* by the Cherry-like protuberance on its Bill. Moreover, it differs alſo in that it wants a Tail, whereas the *Mituporanga* hath a ſufficient long one. But *Aldrovandus* ſaw not the bird it ſelf, but only its Picture, which whether or no it were exact, and not taken when the bird had loſt its Tail, there is ſome reaſon to doubt.

§. VI.

The Guiny *Hen.*

IT is for bigneſs equal to a common *Hen*: But its Neck longer and ſlenderer. The figure of its body almoſt like a *Partridges*. It is of an aſh-colour, all over chequered with white ſpots. A black ring compaſſes the Neck: The Head is reddiſh. On the Crown or top of the Head grows a hard horny cap, [a horn Mr. *Willughby* calls it] of a dusky red colour. The Cheeks beneath the Eyes are blue, and bare of feathers, under which is a red Gill. They ſay, that theſe Birds are gregarious, and feed their Chickens in common. So far Mr. *Willughby*. But becauſe this deſcription is very ſhort and ſuccinct, (though ſufficient for the knowledge of the bird) I ſhall

* So Dr. *Key* called it, who ſent him this deſcription. preſent the Reader with a full and exact one out of *Geſner*. The* *Mauritanian* Cock is a very beautiful bird, in bigneſs and ſhape of body, Bill, and Foot like a *Pheaſant*. [Thoſe that we have ſeen, as alſo thoſe deſcribed by *Bellonius* and *Marggrave* were as big as ordinary Hens,] armed with a horny Crown, riſing up into a point, on the

* Very ſteep behind, and much inclining before. backſide* perpendicularly, on the foreſide with a gentle aſcent or declivity. Nature ſeems to have intended to faſten and bind it down to the lower part by three as it were * Labels or ſlips proceeding from it; between the Eye and the Ear on both ſides one; and in the middle of the forehead one, all of the ſame colour with the Crown; ſo that it ſits on the head after the ſame manner as the *Ducal* Cap doth upon the head of the *Duke* of *Venice*, if that ſide which now ſtands foremoſt were turned backward. This Crown below is wrinkled round about: Where it riſes upright in the top of the Neck, at the hinder part of the head grow certain erect hairs (not feathers) turned the contrary way. The Eyes are wholly black, as alſo the Eye-lids round about, and the Eye-brows, excepting a ſpot in the upper and hinder part of each Eye-brow. The bottom of the Head on both ſides all along is taken up by a kind of callous fleſh of a ſanguine colour, which that it might not hang down like Gills or Wattles, Nature hath taken care to turn backward and fold up, ſo that it ends in two acute proceſſes. From this fleſh ariſe up on both ſides certain Caruncles, wherewith the Noſthrils are inveſted round, and the Head in the forepart ſeparated from the Bill, which is pale-coloured; of theſe alſo at the Bill the lower edges are lightly reflected back under both Noſthrils. What is between the Crown and this fleſh on the right and left ſide is marked with a double ſcaly inciſure, but behind with none.

Its colour under the Jaws or Throat is exactly purple, in the Neck a dark purple: In the reſt of the body ſuch as would ariſe from black and white fine powder, ſprinkled or ſifted thin upon a dusky colour, but not mingled therewith: In this colour are diſperſed and thick-ſet all over the body oval or round white ſpots, above leſſer, below greater, comprehended in the intervals of lines obliquely interſecting one another, as is ſeen in the natural poſition of the feathers; in the upper part of the body only, not in the lower. [I ſuppoſe he means, if we ſhould fancy lines to be drawn in the manner of Network all over the back, the ſpots would ſtand in the middle of the Meiſhes of that Network.] This you may find to be ſo, not only from viewing the whole body, but even ſingle feathers plucked off. For the upper

upper feathers, in oblique lines interfecting one another, or if you pleaſe, certain circumferences, made (as I ſaid) of black and white powder, and having their extremities joyned together as in Honey-combs or Nets, do comprehend oval or round ſpots in dusky ſpaces; but ſo do not the lower. * Yet both are placed in a like manner. For in ſome feathers they are ſo joyned together in order, that they do almoſt make acute triangles, in others ſo as to repreſent an oval figure. Of this kind there are three or four rows in each ſingle feather, ſo that the leſſer are contained within the greater. In the end of the Wings and in the Tail the ſpots ſtand in equidiſtant right lines, long ways of the feather. Between the Cock and Hen you can ſcarce diſcern the ſimilitude is ſo great; ſave that the Head of the Hen is all black. Its voice is a divided or interrupted whiſtle, not louder, nor greater than that of a *Quail*, but liker to that of a *Partridge*, except that it is * higher, and not ſo clear. This deſcription was ſent to *Geſner* by our Dr. *Key* [*Cajus.*]

* Or the poſition of both obſerves a like rule.

* *Sublimior.*

Marggravius ſaw others brought out of *Sierra Lyona* like to the above deſcribed, whoſe Neck was bound or lapped about with, as it were, a membranous cloth of a blue aſh-colour. A round many-double tuft or creſt conſiſting of elegant black feathers covers the Head. The white points or ſpots round the whole body are variegated as it were with a ſhade.

§. VII.

Macucagua *of the Braſilians, a bird of the Hen-kind. Marggrave.*

IT is of the bigneſs of our Country Hen, or bigger; hath a black Bill, more than an inch and half long, forward a little crooked, like a *Partridges:* In the middle of the Bill are two large holes for Noſthrils. The Eyes are black; and behind them at a little diſtance are the Ears, as in Hens: The body thick and great, wherewith the Wings end, for it hath no Tail. The lower Legs are bare, two inches and an half long. It hath in its Feet three Toes ſtanding forward, thick, with ſhort and blunt Claws; a round heel like an *Oſtrich*, and a little above that a ſhort Toe toward the inſide of the Leg, with a blunt Talon. The whole Head and Neck is ſpeckled with a dark yellow and black: Under the Throat it is white. The Breaſt, Belly, and Back are of a dark aſh-colour. The Wings are all over of an Umber-colour waved with black, except the prime feathers, which are wholly black. The upper Legs are clothed with feathers of the ſame colour with the Belly; the lower, together with the Feet, are blue: The Claws grey. It is a very fleſhy bird, and hath ſo much fleſh as ſcarce two ordinary Hens have, and that alſo well taſted. Under the outer skin, which is thick and fat, it hath another membrane wherewith the fleſh is covered. It lives upon divers fruits that fall from wild trees. I found in its ſtomach wild Beans, the Seeds of *Araticu*, &c. It runs upon the ground; for its Feet are unfit to climb trees. It lays Eggs a little bigger than Hens Eggs, of a bluiſh green colour. This might have been put in the next Chapter among the wild birds.

Chap. XI.

Wild Birds of the Poultry-kind, and firſt of all, the Granivorous.

§. I.

The Pheaſant. Phaſianus.

THis Bird is ſuppoſed to be ſo called from *Phaſis* a River in *Colchis*, from whence it was firſt brought into *Europe*. *Aldrovandus*, not improbably, takes this word to be rather derived from the *Hebrew* פסין, of the ſame ſound, and (as he ſuppoſes) ſignification. They differ much in weight, according as they are fatter or leaner. One Cock we made trial in weighed fifty ounces, another but forty five; a Hen thirty three. Its length from the point of the Bill to the end of the Tail was thirty ſix inches, to the end of the Claws twenty four. The diſtance between the tips of the Wings extended thirty three inches. The Bill like to that of other granivorous birds, from the tip to the angles of the mouth an inch three quarters long,

in old birds whitish: It hath on both sides a fleshy and tuberous membrane, by which it is above joyned to the Head, under which the Nosthrils are as it were hid. The *Irides* of the Eyes are yellow. A red or Scarlet colour [according to *Aldrovandus* powdered with black specks] compasses the Eye round for a good breadth. In the forepart of the Head, at the *Basis* of the upper Chap of the Bill, the feathers are black with a kind of purple gloss. The Crown of the Head and upper part of the Neck are tinctured with a dark green, shining like silk, which colour yet is more dilute on the Crown of the Head. [*Aldrovandus* writes, that the Crown commonly is of a very elegant, shining ash-colour, at the sides and near the Bill being green, and either in Sun or shade very changeable: Which most beautiful colour doth also take up the * whole Neck above. Mr. *Willughby* makes the Crown of the Head to be of a shining blue, with a certain mixture of red, and as well the Head as the upper part of the Neck to appear sometimes blue, sometimes green.] It hath moreover on both sides the Head about the Ears feathers sticking out, which *Pliny* calls horns. There grow also to the Ears in their lower angle black feathers longer than the rest. The sides of the Neck and the Throat are of a shining purple colour, Note, that as well the green as the purple colour inheres only in the exteriour part or borders of the feathers, the rest, *i. e.* the middle and lower part, of the feather being on the top of the Head dusky, on the Neck black. The feathers under the Chin, and at the angles of the Mouth are black, with green edges or borders.

* All the upper end of the Neck.

Below the green the rest of the Neck, the Breast, Shoulders, middle of the Back, and sides under the Wings are clothed with most beautiful feathers, having their bottoms black, their edges tincted with a most beautiful colour, which, as it is diversly objected to the light, appears either black or purple: Next to the purple in each feather is a cross line or bed of a most splendid gold colour: Below the gold a fulvous, which reaches as low as the black bottom we mentioned. Howbeit the gold colour is not immediately contiguous to the fulvous, but divided by an intermediate narrow line of a shining purplish. On the underside of the Neck the extremities [tops] of the feathers are painted with a black spot of the figure of a *Parabola*. The shafts of all are fulvous. The feathers themselves about the shaft in the lower part of the under side of the Neck are marked with an Oval white spot in the black bottom we spoke of. The feathers on the shoulders and middle of the Back are variegated with these colours: First, their edges are fulvous, next succeeds a narrow purplish line, then a pretty broad black line running parallel to the edges of the feathers, wherein is included another broad white line: This *Aldrovandus* calls an Oval line. The space comprehended within this line, and the rest of the feather, to the very bottom, are black. Yet in the middle of the Back the space comprehended is various, of dusky and black. The shafts of the feathers are fulvous or yellow. The lower feathers of the Back are almost wholly ferrugineous, inclining to a Fox colour, want that white spot, are longer than others, and end as it were in small filaments. Yet they have this common with the fore-mentioned, that in the light, about their middles they seem to * have an appearance of that green colour, which else is not seen in them; that their shafts approach to a gold colour, and that their bottoms or lower parts are all dusky. The Tail (if you measure the middle feathers, which are much longer than the rest) is full twenty six inches long, almost of the figure of an Organ; for as in that the Pipes on each side are gradually longer and longer, or bigger and bigger, the biggest being the middlemost, so is it in this Tail: Those two middlemost feathers (which, as we said, are the longest of all) have on each side them eight, all of different magnitude, the exteriour shorter and lesser than the interiour in order to the outmost. They are of an ash-colour, on the sides ferrugineous, near the shafts adorned with black spots, in the longest feathers in both Webs, opposite one to another, in the lesser in one Web only, or if there be any mark in the interiour Web it is more obscure, and scarce observable. The Wings closed are nine inches long, spread * eighteen inches broad. The Wing-feathers that are next the body are variegated with the same colours as those on the middle of the Back: The subsequent are liker those on the lower part of the Back: Yet the ridges of the Wings resemble those of the common *Partridge*, whose colour the prime feathers or quils of the Wings do almost exactly represent, *viz.* being of a dusky ash-colour, and all over spotted with whitish spots. The Breast and Belly whereabout the Gizzard lies, and that part thereof which the Wings cover glister with the same colours wherewith the Neck is beautified, but more obscure, and the feathers here are much bigger. Near the vent and on the Thighs it is of a dark ferrugineous. The Legs, Feet, Toes, and Claws

* Cast forth some shew.

* Here is some mistake for the breadth is double of eighteen inches.

are

are of a horn colour; yet the Toes and Claws are darker than the Legs. A thick membrane, and perchance not unfit for swimming, connects the Toes: The like whereto (that I know of) is not found in any other pulveratricious bird. The Legs are armed with Spurs, shorter than in a *Cock*, but sharp, and of a black colour. The Hen is nothing so beautiful as the Cock, almost of the colour of a *Quail*.

It lives in the Woods; and feeds upon Acorns, Berries, Grain, and Seeds of Plants. It frequents rather Coppice Woods, than where there are only Timber-trees.

The Books of all Writers of Animals, Ancient and Modern, celebrate the *Pheasant*, for the goodness of its flesh, assigning to it the first place among birds at Table. Physicians make it the standard wherewith they compare, and accordingly judge of the temperament and goodness of other meats, saith *Longolius*, as he is cited by *Aldrov.* *Aldrovandus* by many arguments proves, that *Pheasants* are better meat than Pullen; which who desires to know, may consult him in the Thirteenth Book, and Fifth Chapter of his *Ornithology*: At last he thus concludes, *Pheasants* therefore, as well because they are rare, as because they are of a most delicate taste, and yield so excellent a nourishment, as we have proved, seem to be born only for great mens Tables, and have been always had in highest esteem of all Birds.

Pheasants, *Partridges*, *Quails*, and some other Birds, are taken in great numbers with a Net they call commonly * *Expegatorium*, by the help of a Setting-dog, trained up for this sport, who finds out the birds, and when he sees them, either stands still, or lies down on his belly, not going very near them, least he should spring them; but looking back on the Fowler his Master, wags his Tail, by which the Fowler knows that the Birds are near the Dog; and so he and his Companion run with the Net, and cover both Birds and Dog.

* I know no particular English name for this Net.

That all Birds, but particularly *Pheasants*, *Partridge*, and *Quails*, are far more savoury and delicate, when killed by a *Hawk*, than if they be caught in snares, or by any other fraud, many have written, and most think. And indeed, there is no doubt but by this means their flesh becomes more short and tender: For that violent motion of the bloud occasioned by their flight, and its fervent heat consequent thereupon, macerates the flesh, and disposes it to corruption, but that it thence becomes more savoury and delicate, all men now-adays are not agreed. But the old rule forbids me to dispute about tastes. *Boterus* reports, that *Ireland* wants *Pheasants* and *Partridges*.

§. II.

The Brasilian Jacupema *of Marggrave.*

IT is a sort of *Pheasant*, something less than a *Pullet*. Its Head is not great, like a Hens, as is also the Bill. The Eyes are black; the Neck about seven inches long: The length of the body from the bottom of the Neck to the rise of the Tail about nine inches: Of the Tail (which is broad) a whole foot. The Legs are long [which he divides into upper and lower,] the upper five inches long, the lower three, or a little more. In each Foot four Toes like those of Hens, of which the middle of the three foremost is two inches long. The whole bird is clothed with black feathers, with which something of brown is mixed. The feathers of its Head it can erect in form of a Crest, and those black feathers [I suppose he means those on the Head which make the Tuft or Crest] are encompassed with other white ones. The Throat under the Head, and for an inch and half down the Neck is bare of feathers, and covered with a red skin. The whole Neck below is variegated with white feathers dispersed among the black ones; as also all the lower Belly, and the hindmost half of the Wings. The upper Legs and the Tail are wholly black, without the admixture of any brown. The lower Legs and Feet are of an elegant red colour. They are made tame; and their flesh is good. This bird took its name from its voice, for it cries, *Jacu*, *Jacu*, *Jacu*. This might as well have been ranked among the Domestic birds.

§. III.

§. III.

The common Partridge. Perdix cinerea.

THe Cock weighed fourteen ounces and a quarter; the Hen thirteen and an half. The length [of the Cock] from the Bill to the Claws was fourteen inches and a quarter, to the end of the Tail twelve and three quarters. The Bill from the tip to the corners of the aperture or ſlit of the mouth three quarters of an Inch, to the Eyes an inch. The breadth was twenty inches.

The Bill in young *Partridges* is of a dusky colour, but in old ones it grows white. The *Irides* of the Eyes are a little yellowiſh. Under the Eyes are certain red excreſcencies. The Chin and ſides of the Head are of a deep yellow or Saffron-colour. The Cock hath on his Breaſt a red mark of a ſemicircular figure, reſembling a Horſe-ſhooe. The Hen hath not ſo much red on her Breaſt. Below the Chin, as far as the Horſe-ſhooe mark, it is of a blue cinereous, adorned with tranſverſe black lines: Beneath the mark the colour fades into dirty or yellowiſh cinereous. The longer feathers on the ſides of the Breaſt and Belly have each of them a great tranſverſe red ſpot, their ſhafts being white. The upper ſide of the body is particoloured of red, cinereous and black. This Naturaliſts call a teſtaceous or potſheard colour.

The Prime feathers in each Wing are about twenty three in number, of which the foremoſt are dusky, with tranſverſe yellowiſh white ſpots. The longeſt feather is five inches and a quarter. The interiour covert-feathers of the Wings, and the long feathers ſpringing from the ſhoulders have their ſhafts of a yellowiſh white.

The Tail is compoſed of no leſs than eighteen feathers, and is in length three inches and an half: The four middle feathers are of the ſame colour with the reſt of the body; the other ſeven on each ſide of a ſordid yellow, with cinereous tips.

The Legs below the Knees are bare; they have no footſtep or appearance of any Spur. Both Legs and Feet are in young ones of a greeniſh colour, but in old ones they grow white. The Toes are joyned together with a membrane as in *Heathcocks*.

It hath a great Craw, a muſculous Stomach or Gizzard, and a gall-bladder. For the taſte and wholſomneſs of its fleſh it is deſervedly preferred before all other birds. It feeds upon Ants and Ants Eggs, upon the grains of Corn, and alſo upon the green leaves. But in Winter-time, when it feeds upon green Corn, its fleſh is leſs commendable, than in Summer and Autumn when it feeds upon the Kernel or grain.

The *Common Partridge* is a multiparous bird, laying ſixteen or eighteen Eggs ere it ſits. With us in *England* it is moſt frequent. The *Italians* call it *Starna*, as much to ſay as *externa*, or outlandiſh; and in ſome places alſo *Pernice*. It is more rare with them. and ſells dearer than the *red-leg'd Partridge*.

The *Partridge* (underſtand it of all the ſeveral ſorts) by reaſon of the heavineſs of its body, and ſhortneſs of its Wings, can neither fly high, nor long continue its flight, howbeit for thoſe ſhort flights it makes it flies very ſwift and ſtrongly.

In Winter-time they fly in company: For they are of that nature, that they breed and bring up fifteen or ſixteen young together, which company all Winter with the old ones. But in the Spring time, when they pair together, they fly by two and two; for then the old ones beat away the Young from them. This out of *Bellonius*: Which is true, not only of birds of this kind, but alſo of *Pheaſants*, *Heathcocks*, &c.

Bellonius ſaith, that the ſinging of *Partridges* is a certain ſign of day approaching. We have often heard them crying and calling one another after Sun-ſet.

Partridges (ſaith *Ariſtotle*) when any one comes near their Neſt, caſt themſelves down before his feet that looks for it, running and flying as if they were lame, by that means drawing him away from their Neſts, and enticing him to follow them; which when they have done, themſelves fly away, and afterwards call together their Brood, which ſo ſoon as they hear the voice of their Dams preſently run to them.

§. IV.

The Braſilian Partridge called Jambu *by Piſo.*

OF theſe in the Woods by the Sea-ſhore are found two kinds, greater and leſſer. Theſe are leſſer than our *Europæan* Partridge, thoſe both for figure and bulk of body and goodneſs of fleſh are equal and like to ours. The feathers of both all over the body are of a dark fulvous colour, but mingled and ſpotted with dusky.

§. V.

The Damaſcus *Partridge of Aldrov.*

IN the ſhortneſs, thickneſs, and roundneſs, and whole ſhape of its body it approaches to our *Partridges*. The colour is ſo like to the leſſer *Partridges*, that at firſt you can hardly diſtinguiſh them: But the Feet in this are in a manner yellow: The Bill is alſo longer, though elſe the Bird be much leſs.

§. VI.

The Red-leg'd Partridge, Perdix ruffa *Aldrov. called in Italy* Coturnice & Coturno.

THE Cock weighed more than thirteen ounces: His length from the tip of the Bill to the end of the Claws was eighteen inches: His breadth between the tips of the Wings extended twenty two. The *Irides* of the Eyes were red: The Bill almoſt an inch long, and red: The Legs and Feet alſo red: The Claws dusky: The Toes as far as to the firſt joynt connected by a membrane intervening. It had ſmall Spurs [others had none, perhaps theſe were young ones.] The ſoles of the Feet were of a dirty yellow.

The Head, Neck, Back, and Rump were aſh-coloured, as alſo the outer part of the Thighs. The lower part of the Neck tinctured with a vinaceous colour. The Cheeks under the Eyes, and the Chin to the middle of the Throat white: Yet in the very angle of the nether Chap was a ſmall black ſpot. A black border beginning from the Noſthrils, and produced above the Eyes encompaſſes this white ſpace. The Craw below the black line is cinereous: The Breaſt of a dilute red, inclining to yellow. The feathers on the ſides are painted with very beautiful colours. For the tips of ſome of them are black; and next the black they have a tranſverſe line, the ſhorter and nearer to the Head of a whitiſh colour, the longer and more remote of a yellow: Below this a black line again. Of others the tips are red, the colours we have mentioned in order ſucceeding. The bottoms of all are cinereous.

The beam-feathers in each Wing are in number twenty five, the exteriour whereof are dusky, the interiour of a dark cinereous: But yet the outer edges of the third, and ſucceeding to the fifteenth, are of a white, tinctured with red. The Tail is four inches long, the two middle feathers being cinereous, the exteriour five on each ſide having their upper half red, their lower cinereous.

It hath a large Craw, a muſculous Stomach, or Gizzard, in which diſſected we found Caterpillars and Snails.

The Back of the Hen is not all out ſo cinereous, but rather inclines to red, the middle parts of the feathers being black. The line running above the Eyes is ſomewhat red. The Cheeks are of the ſame colour with the Back: Elſe it doth not much differ from the Cock. This kind is a ſtranger to *England:* Howbeit they ſay it is found in the Iſles of *Jerſey* and *Guernſey*, which are ſubject to our King. It is of a more gentle nature than our common *Partridge*, and eaſily made and kept tame: Whereas the common *Partridge* can hardly be induced to put off his wild nature, and to go out and return home again like tame fowl: Yet I have been told by perſons of good credit, that a certain *Suſſex* man had by his induſtry and application made a Covey of *Partridges* ſo tame, that he drave them before him upon a wager out of that Country to *London*, though they were abſolutely free, and had their Wings grown, ſo that they might if they would have made uſe of them to fly away.

That this Bird feeds upon Snails *Ariſtotle* hath delivered, and our experience confirms:

firms: Yet not on Snails only, but also on Caterpillars, Seeds of Wheat and other Grain.

Partridges, to speak of them in general, are very salacious birds, infamous for masculine Venery, and other abominable and unnatural conjunctions. The Ancients have left many fabulous things concerning them, *viz.* That the Cocks, if they can find them, break the Eggs, lest the Hens being detained by sitting upon them should not be ready or willing to yield themselves to be trodden; for which cause the Hens lay privately, concealing their Nests, as much as they can, from the Cocks. That the Cocks when they want the Hens, to wit, when they have withdrawn themselves to sit, do not only manifest their petulancy and salacity, by their voices and fighting, but also defile one another promiscuously by that nefarious coition, interdicted mankind by no less than a capital punishment. Which things *Pliny* after his manner hath wittily and elegantly comprised in a few words. *Illæ* [i. e. *fœminæ*] *quidem & maritos suos fallunt, quoniam intemperantiâ libidinis frangunt earum ova, nè incubando detineantur. Tunc inter se dimicant mares desiderio fœminarum. Victum aiunt venerem pati.* That they make two Nests, wherein they lay their Eggs, half in one, and half in the other; in one whereof the Female sits, and in the other the Male: and that both do hatch and bring up their part of Young. That the Hens without being ever trodden by the Cocks, if they do only stand opposite to them, and the wind blow from thence upon them, will conceive Eggs, and those prolific: Of which thing some Modern Writers have indiscreetly indeavoured to give an account, before they had any assurance of the truth of the matter of fact. That the Hens are so intemperately lustful, that contrary to the manner of other birds, they cannot abstain from the use of Venery so much as while they are sitting: Which particulars also *Pliny* briefly and ingeniously thus words: *Neque in ullo animali par opus libidinis. Si contra mares steterint fœminæ, aurâ ab his flante prægnantes fiunt. Hiantes a. exertâ linguâ per id tempus æstuant, concipiúntque supervolantium afflatu, sæpe voce tantùm audita masculi: Adeoque vincit libido etiam fœtûs charitatem, ut illa furtim & in occulto incubans, cùm sensit fœminam aucupis accedentem ad marem, recanat, revocétque, & ultro se præbeat libidini.* That the Cock being overcome in fight dares never so much as come in sight of his Mistris or Mate. That the *Partridge* when her own Eggs are broken, or any ways marred, or lost, steals another *Partridges* Eggs, sits upon them, hatches them, broods and brings up the Young, which yet when they are a little grown, hearing their Dams voice, [that is, the voice of that *Partridge* that laid the Eggs,] do by instinct presently know it, and leaving their Foster Mothers, betake themselves to their own Dams. That she often turns her upon her back, and so, lying with her belly upward, covers her self with clods and straws, and by that means deceives and escapes the Fowlers. But it is not worth the while to insist long upon rehearsing or refuting these particulars.

These Birds (saith *Aldrovandus*) in the Feasts and Entertainments of Princes hold the principal place, without which such Feasts are esteemed ignoble, vulgar, and of no account. Indeed, the *Frenchmen* do so highly value, and are so fond of *Partridge*, that if they be wanting they utterly sleight and despise the best spread Tables, and most plentiful and delicate Treatments; as if there could be no Feast without this dish. As the flesh of *Partridge* (saith *Bellonius*) is very delicate and grateful to the Palate, so in like manner is it greatly commended, for that it nourishes much, is easily digested, and breeds good bloud in the body. The flesh of the greater kind is more solid and hard, (though hard only comparatively) of the lesser more tender, and consequently yields a finer, more dissipable and spirituous nourishment, is also of easier concoction, but yet is not so white as that of the greater. Palate-men, and such as have skill in eating, do chiefly commend the *Partridges* Wing, preferring it much before the Leg, as indeed it is much better. Hence that *English* Proverbial Rhythm:

If the Partridge had the Woodcocks thigh,
'Twould be the best bird that e're did fly.

He that desires yet further information concerning the quality and temperament of *Partridges* flesh, let him consult *Aldrovand.*

§. IV.

§. VII.

Bellonius *his Greek Partridge, or great red Partridge, the same with the precedent.*

THe great *Partridge* which the *Grecians*, following the *Italians*, commonly call *Coturno*, seems to us to be different from the *Partridges* both of *France* and * *Gothland*: For it is twice as big as our Country *Partridge*, hath red Bill and Legs, is spotted on the Breast and sides in like manner as ours, of the bigness of a * handsom Hen. This kind of *Partridge* is so frequent in the Rocks of *Colme*, the *Cyclades* Islands, and the Sea-coast of *Candy*, that there is not such plenty of any other bird. Their cry is different from that of our *Partridge*, being great and sonorous, especially in breeding and coupling time, when they express and often repeat the sound of this word [*Cacabis*] whence it should seem that the *Latines* were taught by the *Greeks* to express the note of a *Partridge* by the word *Cacabare*. We also borrowed the name *Cacabis*, whereby we in some places call a *Partridge* from their voice or cry. They follow one another on the Rocks. Of this kind, in my judgment, *Aristotle* is to be understood when he saith, *If Hens couple with Partridges they generate a different kind*. They build in an open place without cover or shelter in *May*-time, among certain herbs, what time they come down from the Rocks, seeking convenient places to build and bring up their Young. They lay their Eggs upon the ground, under some great stone, sometimes eighteen, sometimes sixteen, more or less, like Hens Eggs, but less, white, and speckled thick with small red spots, very good to eat as Hens Eggs, but their Yolks congeal not. After they have hatcht their Young, they lead them out into the Champain or open fields to seek their food. Wherefore we think this kind of *Partridge* to be altogether different from ours: for in some places of *Italy* both kinds are found, and called by divers names, *viz.* This by the name of *Coturno* the other by the name of *Perdice* or *Pernice*. Thus far *Bellonius*.

* *Gothia.*
* Or indifferent, meansized.

Aldrovandus thinks that this bird differs from the greater red *Partridge* or *Coturnice* of the *Italians* only in bigness: and truly I am now wholly come over to his opinion; sith *Bellonius* himself makes them all one. What Partridges *Bellonius* means by the Partridges of *Gothia* I know not.

§. VIII.

The Quail, Coturnix.

IT is the least bird in this kind; of a flatter or broader body, and not so narrow or compressed sideways as the *Land-Rail* or *Daker-Hen*. Its length from the tip of the Bill to the end of the Tail is seven inches and an half: Its breadth between the extremities of the Wings spread fourteen inches.

Its Bill from the tip to the corners of the mouth half an inch long: its figure more depressed and plain than in the rest of this kind: The lower Chap black, the upper of a pale dusky. The *Irides* of the Eyes are of a hazel colour: The Eyes have a nictating membrane.

The Breast and Belly are of a dirty pale yellow: The Throat hath a little mixture of red [*ruffi.*] Under the lower Chap of the Bill is a long and broad stroke of black tending downward. Above the Eyes, and along the middle of the Head are whitish lines. The head is black, only the edges of the feathers reddish or cinereous. The middle part of each covert-feather of the Back and lower part of the Neck is marked with a yellowish white stroke, the rest of the feather being particoloured of black and reddish ash-colour. Under the Wings is a bed of white terminated on each side with a border of red mingled with black.

The beam or quill-feathers of the Wings are dusky, crossed with pale red lines: Ths lesser rows of hard feathers in the Wings are almost wholly of one and the same reddish colour. The Tail is short, not above an inch and half long, consisting of twelve feathers, of a blackish colour interrupted with pale-red transverse lines.

The Feet are pale-coloured, covered with a skin divided rather into scales than entire rings: The soals of the Feet yellow. The outer Toes, as far as the first joynt, are connected with the middlemost by an intervening membrane.

It hath a Gall-bladder. The Cock had great Testicles for the bigness of its body, whence we may infer that it is a salacious bird. It hath a musculous Stomach or

Gizzard; and just above the Stomach the Gullet is dilated into the bag, which we call the Ante-stomach, the interior *Superficies* whereof is granulated with papillary Glandules.

For catching of *Quails* they use this Art: The Fowler betimes in the Morning having spread his Net hides himself under it among the Corn: then calls with his Quail-pipe, The Cock *Quail*, thinking it to be the note of the Hen that he hears, comes in a trice with all speed to the place whence the noise comes. When the Bird is got under the Net, up rises the Fowler and shews himself to him, he presently attempting to fly away, is entangled in the Net and taken.

The *Quail* is a bird no less salacious than the *Partridge*, infamous also for obscene and unnatural lust. The Cocks are of high spirit and courage; and therefore by some are wont to be trained up and prepared for the combate, after the manner of *Cocks:* And *Ælian* tells us, that of old time at *Athens* Quail-fightings were wont to be exhibited as shews; and so grateful and delightful they were to the people, that there was as great flocking to them as to a spectacle of Gladiators. In some Cities of *Italy*, especially *Naples*, they do also now adays keep fighting *Quails*, as *Aldrovandus* reports. The manner how they induce and provoke them to fight see in him.

Quails are birds of passage: for being impatient of cold, when Winter comes they depart out of Northern and cold Countries into hotter and more Southerly; flying even over Seas; which one would admire, considering the weight of their bodies and shortness of their Wings. When we sailed from *Rhodes* to *Alexandria* of *Egypt* (saith *Bellonius*) many *Quails* flying from the North toward the South were taken in our Ship, whence I am verily perswaded that they shift places: For formerly also when I sailed out of the Isle of *Zant* to *Morea* or *Negropont*, in the Spring time I had observed *Quails* flying the contrary way from *South* to *North*, that they might abide there all Summer: At which time also there were a great many taken in our Ship.

Among the Ancient *Greeks* and *Latines* *Quails* were condemned and banished Tables as an unwholsom dish; for being reported to feed upon *Hellebore*, and to be obnoxious to the falling sickness, they were thought to produce the like disease in those that eat their flesh: But undeservedly, for now adays they are eaten without any danger, and esteemed a choice dish: And being somewhat rare with us in *England* are sold very dear: Indeed their flesh both for delicacy of taste, and wholsomness of nourishment is nothing inferiour to that of *Partridge* or *Pheasant*. Poulterers, and such as feed them in Coops do not permit them a high place to be in, because leaping up they hurt their heads against the top: nay, though their Coops be so low that they can hardly stand upright in them, yet by striking their heads against the top, they will rub off all the feathers; as we have observed.

§. IX.

The Rail or Daker-hen, Ortygometra Aldrov. lib. 13. cap. 33. Crex Aristotelis.

THe weight of that we described was five inches and an half: Its length from the point of the Bill to the end of the Claws was fifteen inches, to the end of the Tail eleven and an half; its breadth between the extreams of the Wings stretch'd out nineteen inches: Its Bill 1 ⅛ inch long, measuring from the point to the end of the slit. The body of this bird is narrow or compressed side-ways, and like to that of *Water-hens*, The lower part of the Breast and the Belly are white; the Chin also is white, else the Throat is of a more sordid or dirty colour. On the Head are two broad black lines: Also a white line from the shoulders as in the *Morehen*. The middle parts of the covert feathers of the Back are black, the outsides of a reddish ash-colour. The Thighs are variegated with transverse white lines. In each Wing are twenty three quil-feathers. The lesser rows of Wing-feathers both above and below are of a deep yellow, as also the borders of the prime feathers. The Tail is almost two inches long, made up of twelve feathers. The Bill is like the *Water-hens*, the upper Mandible being whitish, the nether dusky. The Legs bare above the Knees: the Feet whitish. In the Stomach dissected we found Snails.

It is called *Rallus* or *Grallus* perchance from its stalking [*à gradu grallatorio*] or perchance from *Royale*, because it is a Royal or Princely dish.

Aldrovandus describes his *Rail* thus, Its Bill is less than a Water-fowls, but much bigger than a *Quails:* Its Tail also is very little, and next to none: Its Legs and Feet in proportion to its body long, of a middle colour between Saffron and green. The colour

colour of almost the whole Head, the Neck, Back, and also the greater part of the Wings respecting the Back of a * testaceous colour, in brief very like to that of a *Hen-Quail*, wherefore it is by the *Italians* rightly called the King of Quails [*Il re delle Qualie*] which is as much to say as a great *Quail*. The Wings where they are contiguous to the Belly are red. The fore-part of the Neck and the beginning of the Breast are wholly testaceous: The Belly and Hips like the *Goshawks* [*Accipitris stellarii.*] The Female is all over of a paler colour.

* *Testa* signifieth a Potsheard, so a testaceous colour is a reddish brown.

Bellonius describes this Bird by the title of the other *Rail* that lives in Broom fields. [*Ortygometræ alterius in genistis degentis.*]

It is said to be the *Quails* Leader or Guide when they go from one place to another. In the whole shape of its body it resembles the Water-fowl, especially the *Morehen*. Its Legs are long, its Body slender, its Belly white, its Tail short, its Bill pretty long; all which are marks of *Water-fowl:* Wherefore, in my judgment, it more properly belongs to that Tribe, and ought thither to be referred.

This, if I much mistake not, is the Bird which Dr. *Turner* takes to be the *Crex* of *Aristotle*. There is (saith he) a certain Bird in *England* with long Legs, else like to a *Quail*, save that it is bigger, which among Corn and Flax in the Spring and beginning of the Summer hath no other cry than *Crex, Crex*; but this it often iterates: Which I think to be the *Crex* of *Aristotle:* The *English* call it a *Daker-hen*, the *Germans Ein Schryck*. I never saw or heard it any where in *England* save in *Northumberland*. But seeing (as *Gesner* rightly) it is manifest by the testimony of the most ancient Writer *Herodotus*, that the *Crex* is as big as the black *Ibis*, the English *Daker-hen* cannot be the *Crex*. Although this Bird be more rare in *England*, yet is it found every where in *Ireland* in great plenty.

§. X.

The Indian Quail of Bontius.

THis Bird feeds by Coveys, like *Partridges*, in the Woods of *Java*, although it be also made and kept tame, and its Female, accompanied with her Brood, walks up and down the Yards of houses like the common Hen; the Cocks also are no less stout, and given to fighting among themselves till they kill one another, than the Dunghil-Cocks. In the colour of their feathers they very nearly resemble the true *Quail:* But their Bill is a little longer: They also make such an interrupted noise or cry by intervals as *Quails* are wont to do; but of a far different sound from that of *Quails*, more like to that horrid drumming noise which *Bittours* make among Reeds in fenny places, which in *Low Dutch* we call *Pittoor*. The longer these Birds continue or draw out that cry, the more generous are they thought to be. They are of so cold a nature, that when shut up in Cages or Coops, if you do not expose them to the Sun-beams, and strow Sand under them, they presently languish, and run a hazard of dying: And therefore by night after Sunset, they shrink up on a heap, as the Cuckow doth with us in hollow trees in Winter-time, and in the trunks of trees cover themselves with their feathers. But when the Sun rises they presently sing, and that sound is heard many paces off, that you would wonder so little a bird (for they do not exceed a common *Pigeon* or *Turtle* in bigness) should have so deep and loud a cry. I have sometimes kept of them in Cages, which would give me notice of the approach of Morning or break of day, if I had any serious business to do. For if any business be to be done, it is most commodiously dispatcht either in the Morning or Evening. For the day time, while the Sun roasts all things with his scorching heat, is unfit for action, and very unhealthful to stir much in.

Chap. XII.

Wild Birds of the Poultry-kind that feed on Leaves and Berries, &c. having Scarlet Eye-brows.

§. I.

The Cock of the Mountain or Wood, Urogallus ſive Tetrao major, *Aldrov. called by the Germans* Orhun, *by the Venetians* Gallo di montagna.

FOr bigneſs and figure it comes near to a *Turkey*. The Cock we meaſured from the point of the Bill to the end of the Tail was thirty two inches long: The Hen but twenty ſix. The ends of the Wings extended were in the Cock forty ſix inches diſtant, in the Hen no more than forty one.

It had ſuch a Bill as the reſt of this kind, an inch and half long, meaſuring from the tip to the angles of the mouth; its ſides ſharp and ſtrong. Its Tongue is ſharp, and not cloven. In the Palate is a Cavity impreſſed equal to the Tongue. The *Irides* of the Eyes are of a hazel colour. Above the Eyes is a naked skin of a ſcarlet colour, in the place and of the figure of the Eyebrows, as in the reſt of this kind. The Legs on the forepart are feathered down to the foot, or riſe of the Toes, but bare behind. The Toes are joyned together by a membrane as far as the firſt joynt, then they have on each ſide a border of skin all along, ſtanding out a little way, and ſerrate.

The Breaſt is of a pale red, with tranſverſe black lines, the tips of the feathers being whitiſh. The bottom of the Throat is of a deeper red: The Belly cinereous. The upper ſide of the body is particoloured of black, red, and cinereous, the tips of the feathers being powdered with ſpecks, excepting in the Head, where the black colour hath a purple gloſs if beheld in ſome poſitions. The Chin in the Cock is black, in the Hen red. The Tail is of a deeper red than the other feathers, and croſſed with black bars; the tips of the feathers being white. The Tail of the Cock is black, the tips of the feathers being white, and their borders as it were powdered with reddiſh aſh-coloured ſpecks. The middle feathers eſpecially, and thoſe next to them are marked with white ſpots. The feathers covering the bottom of the Tail have white tips, elſe are variegated with alternate black and reddiſh aſh-coloured tranſverſe lines. After the ſame manner the whole Back is alſo painted with black and white croſs lines, but finer, and ſlenderer. The feathers under the Tail are black, but their tips and exteriour edges white. The Head [in the Hen] is of the ſame colour with the back. The tips of the Breaſt-feathers are black.

Each Wing hath twenty ſix quill-feathers, the greater whereof are of a more dusky and dark colour: The reſt have their exteriour Vanes variegated with red and black. The tips of all beſide the ten outmoſt are white. The longer feathers ſpringing from the ſhoulders are adorned with angular beds of black, wherewith a little red is mingled below. The leſſer rows of hard feathers of the Wings are variegated with dusky, red and white, their tips being white. In the Cock the ſhoulders and leſſer rows of hard feathers above are variegated with red and black lines, underneath are white, except thoſe under the firſt *internodium*, which are black. The longer feathers under the ſhoulders are white, which when the Wings are cloſed make a large white ſpot. The Wings under the ſecond *internodium* are black, with tranſverſe lines of white. In the Cock the Neck is of a ſhining blue. The Thighs, Sides, Neck, Rump, and Belly are in like manner variegated with white and black lines. The Head is blacker: About the vent it is of an aſh-colour.

It hath very long blind Guts, ſtraked with ſix white lines. The Stomach muſculous, as in the reſt of this kind, full of little ſtones. The Craw was ſtuft with the Leaves, Tops, and Buds of the Fir-tree. The skin of the ſtomach ſticking to the muſcles is ſoft and hairy like Velvet.

But for the knowledge of this Bird, and diſtinguiſhing it from all others, there is no need of ſo prolix and particular a deſcription of colours, which vary much by age, and perchance alſo place, and other accidents, when as the bigneſs alone is ſufficient for that purpoſe.

This

This Bird is found on high Mountains beyond Seas, and as we are told in *Ireland*, (where they call it, *Cock of the Wood*) but no where in *England*. At *Venice* and *Padua* we saw many to be sold in the Poulterers Shops, brought thither from the neighbouring *Alps*.

I take the *Grygallus major* of *Gesner* and *Aldrovandus* (who also calls it the *Tetrax* of *Nemesianus*) to be the Female of this Bird. For the Females in this kind of Birds in variety and beauty of colours excel the Males. Whereas *Gesner* taking it for granted, that the Females do in no kind of creature excell the Males in variety of colours, being deceived by this presumption, took and described for different *Species* the different Sexes in both these kinds, *viz.* the *Cock of the Mountain*, and the *black game*: And so of two Species made four; to wit, 1. *Urogallus major*. 2. *Grygallus major*. 3. *Urogallus minor*. 4. *Grygallus minor*. The second and fourth being the Females of the first and third. Moreover, being himself mistaken, he thought *Turner* to be so: Who makes the Male *Morehen*, that is the lesser *Tetrao*, or lesser *Urogallus* of *Gesner*, to be black; the Female all variously spotted, so that if it were not bigger and redder than a *Partridge*, it could hardly be distinguished from it. *Aldrovandus* follows *Gesner*, making the *Grygallus major* of *Gesner* (that is, the Female of the *Urogallus major*) the *Tetrax* of *Nemesianus*; without cause reprehending *Longolius*, who indeed was of the same opinion; whereas he himself erroneously makes the Male and Female of the Cock of the Mountain [*Urogallus major*] diverse or distinct kinds. So then the case stands thus:

1. Cock of the Mountain the Male——1. The greater *Urogallus*, *Ges. Aldrov.*
   Cock of the Mountain the Female——2. The greater *Grygallus*, *Eorund.*

2. Black game or Grous the Male——3. The lesser *Urogallus*, *Eorund.*
   Black game the Female——4. The lesser *Grygallus*, *Eorund.*

The flesh of this bird is of a delicate taste and wholsom nourishment, so that being so stately a bird, and withal so rare, it seems to be born only for Princes and great mens Tables.

§. II.

The Heathcock or Black game or Grous, called by Turner *the Morehen.* Tetrao, seu Urogallus minor.

THe Cock weighed forty eight ounces: was in length from the point of the Bill to the end of the Tail twenty three inches, [The Hen was but nineteen inches long.] Its breadth thirty four inches [the Hens thirty one.]

The Cock is all over black, but the edges of the feathers, especially in the Neck and Back, do shine with a kind of blue gloss. His Legs are grey. The Female is of the colour almost of a *Woodcock* or *Partridge*, red with black transverse lines. The Breast and Belly are hoary, The Wings underneath and the long feathers are white, as in the Cock. The middle of the Back is of a deeper red. The Rump and edges of the feathers on the Throat are hoary. The feathers under the Tail white.

In each Wing are about twenty six beam-feathers: In the Cock the bottom of the fifth of these is white, of the eighth and succeeding to the twenty sixth the whole lower half. Of the eleventh and following feathers to the two and twentieth the tips are also white. The long feathers under the shoulders are purely white. In the Hen the ten outmost feathers are dusky, the rest of the same colour with the body, saving their tips, which are whitish. The bottoms of all but the first six are white. Moreover, those great quil-feathers, which, as we said, are dusky, have something of white in the outer borders. The Wings underneath, and those longer feathers in both Sexes are white, which when the Wings are closed appear outwardly on the Back in the form of a white spot.

The Tail consists of sixteen feathers, and is in the Cock near seven inches long; [Understand this of the exteriour feathers, for the interiour do not exceed four inches.] In the Cock the three exteriour feathers on each side are longer than the rest, and stand bending outward, the fourth on each side shorter, and less reflected. In the Female the outmost feathers are indeed longer than the rest, but not reflected. The Tail is of the same colour with the body, only the tips of the feathers of a hoary white.

The

The Bill is black and crooked; the upper Chap somewhat prominent and gibbous. Under the Tongue is a kind of glandulous substance: In the Palate a Cavity impressed equal to the Tongue. The Tongue is undivided, soft, and somewhat rough. The Eyebrows bare and red. The Ears great both in Male and Female. The Legs rough with feathers growing on their fore-part: The Toes naked, and connected by a membrane as far as the first joynt. On each side the Toes are the like borders of skin as in the precedent Fowl, standing out from the Toe, and pectinated. The Claw of the middle Toe is on the inside thinned into an edge. It hath no spurs.

* Understand it of the bird we described.

Its Guts are * fifty one inches long: Its blind Guts (which is strange) twenty four, striate with six lines. The Craw large. They feed upon the tops of Heath, Acorns, &c. The Pouts do a long time accompany their Dams even after they be come to their full growth, as do young *Partridges*. They are infested with Lice and Ticks.

This kind is frequent in the sides of high Mountains; sometimes it descends into the plains, not rarely occurring in the lower Heath-grounds. The Male differs so strangely from the Female, that to one unacquainted with them they might well seem to be of different kinds; yea, to *Gesner* himself they seemed so, as we shewed in the foregoing Chapter.

This is *Turners Morehen*, which he thinks to be so named from the colour of the Cock, which is black, as in Moors, though he is mistaken in that he writes, that it hath on its Head a red fleshy Crest, and about the Cheeks two as it were red fleshy Lobes, or Gills, for it hath no other red flesh about the Head but the Eye-brows, which all the rest of this *Genus* have. See *Aldrovand.* lib. 14. cap. 15. *Gesner* calls it *Gallus Scoticus Sylvestris*, that is, The wild *Scotch* Cock. I suspect also that the *Gallus Palustris Scoticus* of the same *Gesner* is no other than this Bird. The Histories of these Birds you have in *Aldrovands Ornithology*, lib. 14. cap. 15, 16.

§. III.

* *The* Attagen *of Aldrovandus, called by the Italians* Francolino.

IN bigness and the whole habit and fashion of its body it approaches to a *Pheasant*. It hath a short, black Bill, crooked at the end. The colour is various almost the whole body over. The Head especially hath a very beautiful aspect, a yellowish Crest variegated with black and white spots, being erected in the middle of its Crown. The Pupil of the Eyes is black, the *Iris* yellow. It hath Eye-brows, like the Heathcock, of naked scarlet-coloured skin. Under the Bill and in the beginning of the Throat hangs down as it were a beard of very fine feathers. Its Neck is of the longest, and in comparison with the bulk and make of its body slender, of an ash-colour, besprinkled with black and white spots; which in this respect differ, that here the white, in the Head the black are the deeper. The spots of the Breast are of the same colour, wherewith are other ferrugineous ones mingled. The Belly, Tail, Hips, and Legs [which are covered with feathers] are of a lead colour, and also besprinkled with black spots. The fore-toes of the Feet are long, the back-toe short, all armed with crooked Claws.

They are by the *Italians* called *Francolini* as it were *Franci*, that is, *Free Fowl*, because the common people are forbidden to take them, and Princes grant them freedom of living.

Olina describes this *Francolino* a little otherwise. In the figure (saith he) and proportion of its body it resembles a common Partridge, but in bigness something exceeds it. The Breast and all the Belly are spotted with black and white. The ends of the Wings and Tail are black. The Head, Neck, and Rump are fulvous, inclining to red, with a little and black intermixed. But neither his figure represents, nor description mentions any Crest. The Legs also in *Olina*'s figure are naked.

This Bird is either the same with our other *Lagopus*, called the *Red-game*, or very like it; but differs from it, in that it hath a Crest upon its Head. But the *Attagen* of *Bellonius* (as may be seen by its Picture) is destitute of a Crest. Indeed I should think it to be the same, did not the place forbid it. For our *red Game* lives upon the tops of the highest Mountains in Northern Countries, whereas the *Attagen* of *Aldrovandus* is found plentifully in the Mountains of *Sicily*, which is a very hot Country. Yet I make no question, but the Bird, which *Bellonius* and *Scaliger* understand by this * name, that lives in the *Pyrenæan* Mountains, and the Mountains of *Auvergne*, and which

which, *Bellonius* saith, comes not down into plain Countries, is the very same with our *Red Game*: And perchance also the *Attagen* of *Aldrovandus*, is no other, sith *Francolinus* is a name common to both *Aldrovandus* and *Bellonius* his Bird: And *Aldrovandus* writes, that his *Attagen* is a Mountain Bird. Neither is it a sufficient argument to prove the contrary, that *Sicily* where it is found is a hot Country: for Mount *Ætna* in *Sicily* is so cold, that the top of it for the greatest part of the year is covered with Snow. I am sure when we went up it in the year 1664, in the beginning of *June* the Snow was not melted. But if the Legs thereof be bare, (for *Aldrovandus* doth not affirm it in his description, though his figure represents them bare) and the Head always crested, it cannot be our *Red Game*.

The flesh of this Bird is most excellent, of easie digestion, and yielding plentiful and very good nourishment: And therefore among the Ancients was preferred before all other, and placed in the highest degree of dignity.

§. IV.

The Hazel-hen, Gallina corylorum, Attagen, *Gesn.*

THE Bird we described was a Cock, * weighed but a pound, being from Bill point to Tail end fifteen inches long; and twenty two broad.

* This Bird was exenterated, for it was bigger than a Partridge, and equal to a handsom Pullet; and would else have weighed more.

The Bill, as in Hens, is blackish, from the tip to the angles of the slit of the mouth almost an inch long: The upper Chap a little prominent and crooked. In the Palate is a Cavity equal to the Tongue. Above the Eyes a naked red skin takes up the place of Eye-brows, as in the *Heathcock*, and others of this kind. The Eye-brows of the Female are not so red, but paler. The Legs before are feathered half way down, behind bare as high as the knees. The fore-toes are joyned together by a membrane from the divarication to the first joynt: And have besides such like serrate borders, or welts, standing out on each side, as were observed in the precedent Birds. The inside of the Claw of the middle Toe is thinned into an edge.

The whole Belly is white. The Breast white, spotted with black spots in the middle of the feathers: The several feathers having some one spot, some two or three cross lines: The lower part of the Throat red, but the Chin of a deep black, encompassed with a white line. The Hen wants this black spot under the Chin. From the Eyes to the hind-part of the Head a white Line is produced. The Head is of a reddish ash-colour: The Back and Rump are yet more cinereous, of a colour like that of a *Partridge*. The lower part of the Throat or Gullet is variegated with transverse black lines. The sides under the Wings are red or fulvous, the tips of the feathers being white. The long feathers springing from the shoulders, that cover the Back, are all white.

The Wings are concave as in *Partridges* and the rest of the Poultry kind: The beam-feathers in each Wing are twenty four in number, the foremost or outmost whereof on the outside the shaft were parti-coloured of dusky and white, on the inside dusky. The greater rows of covert Wing-feathers were variegated with red, white, and black.

The Tail was made up of sixteen feathers all equal, of about five inches long. The seven exteriour on each side had their tips of a dirty white; next the white a bar or bed of black an inch broad; the rest of the feather to the very bottom particoloured of black and white. The two middlemost of the Tail are of the same colour with the body, having cross bars of white powdered with dusky specks. The tips of the long feathers under the Tail are white, the middle part black, the lower red.

The Stomach is musculous: The Guts thirty six inches long: The blind Guts fifteen, which in this Bird also are striate. The flesh boiled or roast, as in the rest of this kind, is white, very tender also and delicate.

Most learned men (saith *Aldrovandus*) are of opinion, that this is the Bird which by the Ancient *Greeks* and *Latines* was called *Attagen*; from whom yet he dissents. It is wont (saith *Georg. Agricola* as he is quoted by *Aldrovandus*) to live in thick and shady woods. The same also writes that it is found plentifully in the Mountainous Woods about the foot of the *Alps*, especially where hazels and briers abound. We saw them in the Market at *Nurenberg* to be sold: Whence we gather that they are found in the great Woods near that City, though they be not mountainous: What they live chiefly upon we cannot certainly say, but we verily believe that their food is the

the ſame with the other Birds of this kind, *viz. Bill-berries, Crow-berries, Black-berries*,&c. and in the Winter-time the tops of *Heath*, *Fir*, and other ever-green ſhrubs: But whether they do eat the Catkins of *Hazel* (as *Albertus* affirms, and from whence they ſeem to take their name) we know not.

§. V.

The white Game, erroneouſly called the white Partridge, Lagopus avis, *Aldrov.*

FOr figure and bigneſs it comes near to a tame *Pigeon*, ſave that it is ſomething bigger; weighs fourteen ounces: From the tip of the Bill to the end of the Tail or Feet (for they are equally extended) is about ſixteen inches long; between the extremities of the Wings ſpread twenty four inches broad. The Bill ſhort, black, like a Hens, but leſs: The upper Chap longer and more prominent. The Noſthrils are covered with feathers, ſpringing out of a skin on the lower ſide the holes. Above the Eyes, in the place of the Eyebrows is a naked skin of a ſcarlet colour, and of the figure of a *Creſcent*.

In the Cock-birds a black line drawn from the upper Chap of the Bill reaches further than the Eyes towards the Ears; which in the Hens is wanting: All the reſt of the body, excepting the Tail, is as white as Snow.

Each Wing hath twenty four prime feathers, of which the firſt or outmoſt is ſhorter than the ſecond, the ſecond than the third. The ſhafts of the ſix outmoſt are black. The Tail is more than a Palm long, compounded of ſixteen feathers, the two middlemoſt whereof are white; the outmoſt on each ſide without the ſhaft alſo white, all the reſt black. [Thoſe that I (*J. R.*) deſcribed in *Rhætia* had the two middle feathers of their Tails only white, all the reſt black.] The feathers next the Tail, incumbent on it, are of equal length with the Tail it ſelf; ſo that they do wholly cover it. The Legs, Feet, and Toes, to the very Claws, are covered with ſoft feathers, thick-ſet, like Hares feet, whence it took the * name. The Claws are very long, not unlike the nails of ſome Quadrupeds, as for example *Hares*; of a dark horn or lead colour. Its back-toe or heel is ſmall, but its Claw great and crooked. The fore-toes are joyned together by an intervening membrane, as in the other fowl of this kind. The Claw of the middle Toe is ſomething hollow all along the middle, the edges of this furrow or channel being ſharp. Under the Toes grow long hairs very thick.

* *Lagopus* ſignifies a Hares foot.

The Craw is great, and in that we diſſected full of the tops and leaves of *Fir, Heath, Bill-berry*,&c. The Stomach or Gizzard muſculous: The Guts forty inches long: The blind Guts long, great, and ſtriate.

In the Alps of *Rhætia*, and in other high Mountains, which are for a great part of the year covered with Snow, it is frequently found. Wherefore Nature, or the Wiſdom of the Creator, hath fenced its Feet againſt the ſharpneſs of the cold with a thick covering of feathers and down.

Theſe Birds, for the excellency of their fleſh, are commonly called *White Partridges*, and thought to be ſo by the Vulgar; whereas indeed the *Partridge* and *Lagopus* are far different Birds. Yet the *Savoyards*, and other *Alpine* people, who are not ignorant of their difference, call them ſo ſtill; at firſt perchance by miſtake from their agreement in figure and magnitude they began to be ſo called, and now they continue the old name.

§. VI.

* *The other or particoloured* Lagopus *of Geſner.*

THere is another ſort of *Lagopus* found on the Mountains of *Switzerland*. The Bird we deſcribed of this kind was a Male. Its Belly white, its Wings alſo milk white: Yet on the hinder part were ſome feathers partly dusky, partly ſpotted. The Head, Neck, and Back particoloured, with dusky and ſpotted feathers. The Neck underneath had a great deal of white, and but a little black; above was covered partly with pied, partly with white feathers. Above each Eye was a ſemicircular skin of a red colour. Its Bill was very ſhort, and black, the upper Chap whereof was crooked, and received [within its edges] the nether, which was channelled. The Tail was five inches long, conſiſting of twelve black feathers, and two white

white ones in the middle, and three or four particoloured ones. The Legs and Feet, down to the very Claws, were covered with white feathers growing very thick and close together, so that nothing at all appeared bare but the black Claws. Only the soal of the Foot and inner part of the Toes were without feathers: Yet might the Toes be wholly covered with the hair-like feathers meeting underneath. It was as big as a *Pigeon*, or something bigger: The length of the whole about five Palms. I suppose this Bird is called in *Italian* about *Trent Otorno*; about the Lake called by the Ancients *Verbanus*, now *Maggiore*, [or the greater,] *Colmestre*: Our Countrymen [the *Switzers*] *Stein-hun* [or Stone-hen;] as some do also the precedent. Others for distinction sake add the bigness. I guess this second kind to be a little the bigger. As for the former kind I doubt not but it is the first *Lagopus* of *Pliny*, white, *&c.* But this second, although perchance it may be doubted, whether it be the second *Lagopus* of *Pliny*, which, as he writes, differs from *Quails* only in bigness, yet ought by all means to be referred to the same *Genus* with the first. Thus far *Gesner*. I am of opinion that this Bird is not only generically, but even specifically, the same with the former or first *Lagopus* of *Pliny*: For, except some marks and spots on the upper side of the body, it agrees perfectly therewith: But those are not sufficient to infer a difference of kind: Seeing that the first *Species* also is said to change colour in Summer, and become dusky: Yea, those which ascend not up the Mountains are reported not to be white, no not in Winter. But I dare not pronounce any thing rashly; referring the matter to the determination of the learned and curious, that live in those Countries, or have opportunity of travelling and sojourning there.

§. VII.

The Red Game, called in some places the Gorcock and More-cock, Lagopus altera Plinii.

IT is near half as big again as a *Partridge*, for the figure of its body not unlike: Somewhat [yea, considerably] bigger than the *Lagopus*: Its Feet and Claws exactly like his. Its Bill is short and blackish: Its Nosthrils elegantly covered with feathers, as in the *Lagopus*. But especially remarkable are the scarlet-coloured naked skins above each Eye, of the figure of a Crescent, in place of Eye-brows, which in the Cock are much broader, and have in their upper Circumference a border of loose flesh snipt, as it were a fringe or Crest. In the Cock the Plumage about the *basis* of the Bill is powdered with white specks; and at the *basis* of the lower Chap, on each side is a pretty great white spot; but not so in the Female. Moreover, the Male differs from the Female, in that it is much redder than she: So that in the Throat and upper part of the Breast it hath no mixture at all of any other colour. All the upper side of the Body, Head, Neck, Back, and covert-feathers of the Wings are particoloured of red and black, each single feather being painted with red and black transverse wayed lines. Howbeit in the Cock the red exceeds the black; yet hath he in the middle of the Back and on the Shoulders great black spots, which the Female hath not.

In each Wing are twenty four quil-feathers, all dusky, except the exteriour edges of those next the body, which are red. The outmost feather of the Wing is shorter than the second, the third the longest of all. The interiour bastard Wing is made up of white feathers. The feathers also on the under side of the Wings next to the flags are white. The Breast and Belly are almost of the same colour with the Back in both Sexes: Yet in the middle of the Breast and Belly are some pretty great white spots. The Legs and Feet are clothed with a long thick Plumage or Down to the utmost ends of the Toes. The Tail is more than a handful long, not forked, consisting of sixteen feathers, all black except the two middlemost, which are varied with red. The flesh is very tender, especially in the younger ones, not so white as a Hens.

It is frequent in the high Mountains of *Derbyshire*, *Yorkshire*, *Westmorland*, and *Wales*. It lays five, six, seven, or eight Eggs, seldom more, one inch three quarters long, sharper at one end, all speckled with dark red specks or points, only towards the sharper end are one or two beds void of spots. The younger are infested with belly-worms, which sometimes as they fly hang down a foot length from behind. We take this Fowl to be the *Lagopus altera* of *Pliny*, lib. 10. cap. 48.

It delights to abide in the highest tops of the highest Mountains, and with us never comes down into the Plains, yea, seldom into the sides of the Mountains.

This is the Bird which *Bellonius* call the *Attagen*, as we ſaid before in the Chapter of the *Attagen* of *Aldrovandus*, and takes that Bird which the *Savoyards* call, the *white Partridge*, and *Pliny*, *Lagopus*, to be a variety of this; for it is all over white, and hath the Legs covered with feathers (though finer) like the *Attagen*: The *Italians* alſo call both kinds *Francolino*. And indeed the colour and bigneſs excepted, the *Red Game* differs little from the *Lagopus*. The figure of the Bill and whole body is the ſame in both: The Feet alike feathered to the very Claws: So that Mr. *Willughby* alſo, together with *Bellonius*, did ſometimes ſuſpect that they differed rather accidentally than ſpecifically. But to me ſo great difference of colour and bigneſs do neceſſarily infer a diverſity of kind. The fleſh of theſe, and the reſt of this Tribe, doth ſuddenly corrupt, and therefore the Fowlers, ſo ſoon as ever they take them, preſently exenterate them, and ſtuff the Cavity of the Belly with green *Ling*.

§. VIII.

* *Bellonius his* Damaſcus *Partridge, which Aldrovand ſuppoſes to be the other* Lagopus *of Pliny.*

THere are (ſaith he) no wild Birds at *Damaſcus* more notable than the *Partridges* of that Country. They are leſs than the red or aſh-coloured. In the colour of the Back and Neck they reſemble a *Woodcock*: But their Wings are of a different colour. For where they are joyned to the body they are covered with white, dusky, and fulvous feathers: Ten of the prime feathers are cinereous. The inner ſide of the Wings and the Belly are white. It hath a collar-like mark on its Breaſt, like the * *Merula torquata*, conſiſting of red, fulvous, and yellow colours: Elſe in the colour of the lower part of the Head and Neck, in the Bill and Eyes it is like a *Partridge*, and hath a ſhort Tail. We had ranked it with the *Water Rail*, or *Woodcock* or *Plover*, but that its Legs were feathered, like the *Savoyard* white Partridges (which is the *Lagopus*) or a rough-footed *Doves*. This, if rightly deſcribed, is a kind of *Lagopus* or *Heath Cock*, which we have not yet ſeen; and the leaſt of that kind that we have yet ſeen or heard of.

* The Ring Ouzel.

Chap. XIII.

Birds of the Poultry-kind that want the back-toe.

§. I.

The Buſtard, Otis ſeu Tarda avis.

IT is for bigneſs nothing inferiour to a *Turkey*. Its length meaſuring from the beginning of the Bill to the end of the Tail was ſixty inches. Its breadth, or diſtance between the tips of the Wings ſpread two yards and an half. Its Bill like a Hens, the upper Chap being ſomething crooked. The Head and Neck are aſh-coloured; the Belly white: The Back variegated with red and black tranſverſe lines. It wants the back-toe, which is eſpecially remarkable: For by this note alone and its bigneſs, it is ſufficiently diſtinguiſhed from all other Birds of this kind. It feeds upon Corn, Seeds of Herbs, Colewort, Dandelion leaves, *&c.* In the Stomach of one diſſected we found a great quantity of *Hemlock* Seed, with three or four grains of Barley, and that in Harveſt time. On *New-market* and *Royſton Heaths* in *Cambridgeſhire* and *Suffolk*, and elſewhere in Waſts and Plains they are found with us.

They are of ſlow flight, and when they are lighted can hardly raiſe themſelves from the earth, by reaſon of the bulk and weight of their bodies, from whence without doubt they got the Latine name *Tarda*. They are called by the Scots *Guſtardæ*, as *Hector Boethius* witneſſeth in theſe words: *In* March, *a Province of* Scotland, *are Birds bred, called in the Vulgar Dialect* Guſtardes, *the colour of whoſe feathers and their fleſh is not unlike the Partridges, but the bulk of their body exceeds the Swans.*

Some ſay, one may catch them with ones hands before they can compoſe themſelves to fly; but this is a miſtake, for though (as we ſaid before) it be long ere they can raiſe themſelves from the earth, yet are they very timorous and circumſpect, and will

will not ſuffer a man to come within a Furlong of them, before they take Wing and fly away. Yet our Fowlers report that they may be run down with *Greyhounds*.

Italy (ſaith *Aldrovandus*) hath none of theſe Birds, unleſs they be brought over accidentally by the force of tempeſtuous winds. But we when we travelled in *Italy* did ſee in the Market at *Modena* a *Buſtard* to be ſold, whence we ſuſpect that there are of them in that Country.

Though ſome diſcommend their fleſh, yet with us it is eſteemed both delicate and wholeſome. Hence, but chiefly for its rarity, the *Buſtard* ſells very dear, ſerving only to furniſh Princes and great mens Tables at Feaſts and public entertainments.

§. II.

The French Canne-petiere, Anas campeſtris *or* Tetrax *of Bellonius*.

THe *Field-Duck* ſeems to us to be a Bird peculiar to *France*, where there is not a Country man but knows it, at leaſt by name. It is ſo called, not becauſe it is a Water-bird, but becauſe it ſits on the ground like the *Water-Duck*. But it hath no ſimilitude or agreement with Water-fowl, being a Land-Bird. It is of the bigneſs of a *Pheaſant*; the Head, ſaving the bigneſs, reſembling a *Quails*, the Bill a Pullets. It is more known by its name, than by its ſhape: For we have a Country-Proverb againſt ſuſpicious perſons, wherein we ſay, that they play the *Land Duck*. It is taken in Plains and open fields, as they take *Partridges*, in ſnares, with Nets and *à la forme*, and alſo with Hawks. But it is very crafty in defending and ſhifting for it ſelf: flying near the ground, and that* with great force and ſwiftneſs, for two hundred or three hundred paces, and when it alights or falls on the ground running ſo ſwiftly, that ſcarce any man can overtake it. It hath only three Toes in each foot, like the *Buſtard* or *Plover*. The roots of all the feathers are red, and as it were of a ſanguine colour, ſo joyned to the skin as in the *Buſtard*, whence alſo we take it to be a kind of *Buſtard*: For both, but eſpecially this, is white under the Belly: But the Back is variegated with three or four colours, to wit, a yellow tending to red, with ſomewhat of cinereous and red intermixed. Four Wing-feathers in the upper part have black tips. Under the Bill, down as far as the Breaſt, it is white. A white Collar near the Crop compaſſes the Breaſt, as in the *Savoy Merulæ*, or *Water-Ouzels*. [But this Collar appears not in *Bellonius* his figure.] The colour of the Head and upper part of the Neck is the ſame with that of the Back and Wings. The Bill is black, leſs than in the *Ionic Attagen*. The Legs incline to cinereous. He that deſires an exact deſcription of this Bird, let him imagine a *Quail* of the bigneſs of a *Pheaſant*, but very much ſpotted; for juſt ſuch is this *Field-Duck*. All the interiour parts it hath common with other granivorous birds. It is reckoned among delicate Birds, and eſteemed as good meat as a *Pheaſant*. It feeds indifferently upon all ſorts of Grain, as alſo upon *Ants*, *Beetles*, and *Flies*, and likewiſe upon the leaves of green corn. And although the colour of the Neck and Head be not always the ſame, (and herein conſiſts the difference between the Male and the Female) yet the Back and Wings never change colour. This Bird ſeems not to have been mentioned by the Ancients.

* Impetuouſly.

Chap. XIV.

Of Doves or Pigeons in general.

THe Marks common to all ſorts of *Pigeons*, whereby they may be diſtinguiſhed from all other kinds of Birds, are not very many, *viz.* a peculiar figure of body, reſembling that of a *Cuckow*; ſhort Legs; long Wings; ſwift flight; a mournful voice; to lay only two Eggs at one ſitting, but to breed often in a year. *Aldrovandus* ſaith, it is proper to all *Pigeons* to wink with both Eye-lids. They do not all agree in the figure of the Bill: For ſome have ſlender and indifferently long Bills, others thick and ſhort ones. The Feet of all, at leaſt ſo many as we have yet ſeen, are red or ſanguine. In the *Pigeon*-kind the Male and Female divide between them the labour of incubation, ſitting by turns. The Male alſo aſſiſts the Female in

feeding and rearing the Young. And for an internal note, it is common to them to have no Gall-bladder.

Chap. XV.

Of the ſeveral kinds of Pigeons.

§. I.

The common wild Dove or Pigeon. Columba vulgaris.

A Female, which we deſcribed, weighed thirteen ounces: Was in length from Bill to Tail thirteen inches; in breadth twenty ſix.

Its Bill was ſlender, ſharp-pointed, and indifferently long, like to that of a *Lapwing* or *Plover*, above the Noſthrils ſoft, and white by the aſperſion of a kind of furfuraceous ſubſtance, elſe dusky. The Tongue neither hard, nor cloven, but ſharp and ſoft. The *Irides* of the Eyes of a yellowiſh red. The Legs on the forepart feathered almoſt to the Toes: The Feet and Toes red; the Talons black.

The Head was of a pale blue; the Neck as it was diverſly objected to the light did exhibite to the Beholder various and ſhining colours. The Crop was reddiſh, the reſt of the Breaſt and Belly aſh-coloured. The Back beneath, a little above the Rump, was white, (which is a note common to moſt wild *Pigeons*) about the ſhoulders cinereous, elſe black, yet with ſome mixture of cinereous.

The number of prime feathers in each Wing was about twenty three or twenty four. Of theſe the outmoſt were dusky, of the reſt as much as was expoſed to ſight black, what was covered with the incumbent feathers cinereous. The covert-feathers of the ten firſt *Remiges* were of a dark cinereous: Of the reſt of the covert-feathers (almoſt to the body) the tips and interiour Webs, as far as the ſhafts were cinereous, the exteriour black. The covert-feathers of the underſide of the Wings purely white.

The Tail is made up of twelve feathers, four inches and an half long, the middle being ſomewhat longer than the extremes. The tips of all were black: The two outmoſt below the black on the outſide the ſhaft were white; all the reſt wholly cinereous, the lower part being the darker. The feathers incumbent on the Tail were cinereous.

It had a great Craw, full of *Gromil* ſeed. The blind Guts were very ſhort, ſcarce exceeding a quarter of an inch. It hath (as we ſaid of *Pigeons* in general) no Gall-bladder, and lays but two Eggs at a time.

This kind varies mumch in colour; there are found of them ordinarily milk-white.

Aldrovandus deſcribes and figures many ſorts of tame Pigeons, which he thus diſtinguiſhes:

- Tame or houſe Doves are either
  - Of our Country, which have their Feet either
    - Naked
      - The greater called *Tronſi*, and in Engliſh *Runts*, whoſe deſcription and figure you have, *t.* 2. *pag.* 462.
      - The leſſer or moſt common, *t.* 2. *pag.* 463.
    - Rough
      - The greater, *t.* 2. *pag.* 466
      - The leſſer
        - Creſted, *t.* 2. *pag.* 469.
        - Smooth-crown'd, *t.* 2. *pag.* 467.
  - Outlandiſh, to wit,
    - Friſled Pigeons, *t.* 2. *pag.* 470.
    - *Cyprus* Pigeons
      - Hooded, with their Feet
        - Rough, *t.* 2. *pag.* 471.
        - Bare, of which there are ſeveral kinds ſet forth, *p.* 472, 473, 474
      - Smooth-crowned, called *Indian* Pigeons, *t.* 2. *pag.* 477.
    - *Candy* Pigeons, having in the Bill, above where it is joyned to the Head a white Tubercle or Wattle, *p.* 478.
    - *Perſian* or *Turkey* Pigeons of a dark colour, *p.* 481.
    - *Varro*'s Stone or Rock Pigeon.

Under

Under the title of Domestic, which I have Englished tame or house Doves, he comprehends the common wild *Pigeon* kept in Dove-cotes, which is of a middle nature between tame and wild.

§. II.

Divers sorts of tame Pigeons.

1. THe *greater tame Pigeon*, called in *Italian*, *Tronfo & Asturnellato*; in *English*, a *Runt*; a name (as I suppose) corrupted from the *Italian Tronfo*: Though to say the truth, what this *Italian* word *Tronfo* signifies, and consequently why this kind of Pigeon is so called, I am altogether ignorant. Some call them *Columbæ Russicæ*, *Russia-Pigeons*, whether because they are brought to us out of *Russia*, or from some agreement of the names *Runt* and *Russia*, I know not. These seem to be the *Campania* Pigeons of *Pliny*. They vary much in colour, as most other Domestic Birds: Wherefore it is to no purpose to describe them by their colours. In respect of magnitude they are divided into the *biggest* and the *lesser* kind. The *greater* are more sluggish birds, and of slower flight; the same perchance with those *Gesner* saith he observed at *Venice*, which were almost as big as *Hens*. The *lesser* are better breeders, more nimble, and of swifter flight. Perchance these may be the same with those, which * *Aldrovandus* tells us are called by his Country men *Colombe sotto banche*, that is, Pigeons under Forms or Benches, from their place; of various colours, and bigger than the common wild *Pigeons* inhabiting Dove-cotes. Runts.

* *Ornithol.* t. 2. pag 360.

2. *Croppers*, so called because they can, and usually do, by attracting the Air, blow up their Crops to that strange bigness that they exceed the bulk of the whole body beside. A certain * *Hollander* informed *Aldrovandus*, that these *Kroppers Duve*, as they call them, are twice as big as the common Domestic Pigeons, which as they fly, and while they make that murmuring noise, swell their throats to a great bigness, and the bigger, the better and more generous they are esteemed. Those that I saw at Mr. *Copes*, a Citizen of *London*, living in *Jewin* Street, seemed to me nothing bigger, but rather less than *Runts*, and somewhat more slender and long-bodied. These differ no less one from another in colour than the precedent.

* *Belga*, it also signifies any *Low-Country man*.

3. *Broad-tail'd Shakers*, called *Shakers* because they do almost constantly shake or wag their Heads and Necks up and down: *Broad-tail'd*, from the great number of feathers they have in their Tails; they say, not fewer than twenty six. When they walk up and down they do for the most part hold their Tails erect like a *Hen* or *Turkey-Cock*. These also vary much in colour.

4. *Narrow-tail'd Shakers*. These agree with the precedent in shaking, but differ in the narrowness of their Tails, as the name imports. They are said also to vary in colour. This kind we have not as yet seen, nor have we more to say of it.

5. *Carriers*. These are of equal bigness with common *Pigeons*, or somewhat less, of a dark blue or blackish colour. They are easily distinguished from all others, 1. By their colour. 2. In that their Eyes are compassed about with a broad circle of naked, tuberous, white, furfuraceous skin. 3. That the upper Chap of the Bill is covered above half way from the Head with a double crust of the like naked fungous skin. The Bill is not short, but of a moderate length. They make use of these birds to convey Letters to and fro, chiefly in the *Turkish* Empire. Perchance these may be the *Persian* and *Turkish* Pigeons of *Aldrovand*, all over of a dusky or dark brown colour, excepting the Eyes which are scarlet, the Feet which are of a pale red, and the Bill, which (as he saith) is yellow; wherein they differ from ours, whose Bills are black. The nature of these birds is such, that though carried far away they will return speedily thither, where either themselves were bred or brought up, or where they had hatcht and brought up Young. Of this kind we saw in the Kings Aviary in St. *James's* Park, and at Mr. *Copes*, an Embroiderer in *Jewin* Street, *London*. Moreover, we read that the Ancients sometimes made use of *Pigeons* in sending Letters, as for example, *Hirtius* and *Brutus* in the Siege of *Modena*, *Hirtius* sending a Dove to *Brutus*, and *Brutus* back again to *Hirtius*, having, by meat laid in some high places, instructed these *Pigeons*, before shut up in a dark place, and kept very hungry, to fly from one to another.

6. *Jacobines*, called by the *Low Dutch*, *Cappers*, because in the hinder part of the Head or Nape of the Neck certain feathers reflected upward encompass the Head behind, almost after the fashion of a Monks Hood, when he puts it back to uncover his Head.

Head. These are called *Cyprus* Pigeons by *Aldrovand*, and there are of them rough-footed. *Aldrovandus* hath set forth three or four either *Species* or accidental varieties of this kind. Their Bill is short: The *Irides* of their Eyes of a Pearl-colour, and the Head (as Mr. *Cope* told us) in all white.

7. *Turbits*, of the meaning and original of which name I must confess my self to be ignorant. They have a very short thick Bill like a *Bullfinch*: The crown of their Head is flat and depressed: The feathers on the Breast reflected both ways. They are about the bigness of the *Jacobines*, or a little bigger. I take these to be the *Candy* or *Indian* Doves of *Aldrovand*, *tom.*2. *pag.*477.478. the Low Dutch *Cortbeke*.

8. *Barbary*-Pigeons, perchance the *Candy-Dove* of *Aldrovand*. The Bill is like that of the precedent. A broad circle of naked, tuberous, white flesh compasses the Eyes, as in the *Carriers*. The *Irides* of the Eyes are white. My worthy Friend Mr. *Philip Skippon*, in a Letter to me concerning tame Pigeons, writes, that the Eyes of this kind are red. Perchance the colour may vary in several birds.

9. *Smiters*. I take these to be those, which the fore-mentioned *Hollander* told *Aldrovandus*, that his Country-men called *Draiiers*. These do not only shake their Wings as they fly: But also flying round about in a ring, especially over their Females, clap them so strongly, that they make a greater sound than two Battledores or other boards struck one against another. Whence it comes to pass that their quil-feathers are almost always broken and shattered; and sometimes so bad, that they cannot fly. Our Country-men distinguish between *Tumblers* and *Smiters*.

10. *Tumblers*, these are small, and of divers colours. They have strange motions, turning themselves backward over their Heads, and shew like footbals in the Air.

11. *Helmets*. In these the Head, Tail, and quil-feathers of the Wings are always of one colour, sometimes white, sometimes black, red, yellow, or blue; the rest of the body of another, different from that, whatever it be. These are also called *Helme* by the *Low Dutch*, as *Aldrovandus* writes from the relation of the fore-mentioned *Dutchman*.

12. *Light-horsemen*. This is a bastard kind, of one Parent a *Cropper*, the other a *Carrier*, and so they partake of both, as appears by the Wattles of their Bill, and their swollen throats. They are the best breeders of all, and will not lightly forsake any house to which they have been accustomed.

13. *Bastard-bills*. Which name why it is imposed upon them I know not, unless perchance because their Bills are neither long nor short, so that it is not certain to what Species they ought to be referred. They are bigger than *Barbaries*, have a short Bill and red Eyes; but are not all of the same colour.

14. *Turners*, having a tuft hanging down backward from their Head, parted like a horses Main.

15. *Finikins*, like the precedent, but less.

16. *Mawmets*, called (as I take it) from *Mahomet*; perchance because brought out of *Turkey*, notable for their great black Eyes, else like to the *Barbaries*.

17. *Spots*, because they have each in their forehead, above their Bill a spot: Their Tail is of the same colour with the spot, the rest of the body being white.

* *Exosculentur. i.e.* kiss them.

The *Younger Pigeons* never tread the Females, but they *bill them first, and that as often as they tread them. The elder *Doves* bill only the first time, the second they couple without billing. *Aldrov. Ornithol. tom.*2. *pag.*363.

The Sex, especially of the tame *Pigeons*, is easily known by their note or murmur, which in the Hens is very small, in the Males much deeper.

Aristotle, and out of him *Pliny* and *Athenæus* write that it is proper or peculiar to *Pigeons* not to hold up their heads as they drink, like other birds, but to drink like Kine or Horses by sucking without intermission.

The life of Pigeons.

Albertus sets the twentieth year for the term of a *Pigeons* life. As for tame *Pigeons* (saith *Aldrovandus*) a certain man of good credit told me, that he had heard from his Father, who was much delighted in *Pigeons*, and other Birds, that he had kept a *Pigeon* two and twenty years, and that all that time it constantly bred, excepting the last six months, which time, having left its Mate, it had chosen a single life. *Aristotle* assigns forty years to the life of a *Pigeon*. *Aldrov. Ornithol. tom.*2. *pag.*370.

Pigeons are far harder to concoct than Chickens, and yield a melancholy juyce. They say that the eating of *Doves* flesh is of force against the Plague; insomuch that they who make it their constant or ordinary food are seldom seized by Pestilential diseases. Others commend it against the Palsie and trembling: Others write, that it is of great use and advantage to them that are *dim-sighted. The flesh of young

* Or have weak Eyes.

Pigeons

Pigeons is reſtorative, and uſeful to recruit the ſtrength of ſuch as are getting up, or newly recovered from ſome great ſickneſs: To us it ſeems to be moſt ſavoury, and if we may ſtand to the verdict of our Palate, comparable to the moſt eſteemed.

A live *Pigeon* cut aſunder along the back-bone, and clapt hot upon the Head, mitigates fierce humours and diſcuſſes melancholy ſadneſs. Hence it is a moſt proper medicine in the phrenſie, headach, melancholy, and gout, *Schrod.* Some add alſo in the Apoplexy. Our Phyſicians uſe to apply Pigeons thus diſſected to the ſoals of the Feet, in acute diſeaſes, in any great defect of ſpirits or decay of ſtrength, to ſupport and refreſh the patient, that he may be able to grapple with, and maſter the diſeaſe. For the vital ſpirits of the Pigeon ſtill remaining in the hot fleſh and bloud, do through the pores of the skin inſinuate themſelves into the bloud of the ſick perſon now diſ-ſpirited and ready to ſtagnate, and induing it with new life and vigour, enable it to perform its ſolemn and neceſſary circuits.

The hot bloud dropt into the Eyes allays pain, and cures blear eyes, and diſcuſſeth ſuffuſions and bloud-ſhot, and cures green wounds. It properly ſtops bloud that flows from the membranes of the brain; and mitigates the pains of the gout.

Note 1. *The bloud of the Cock-Pigeon is beſt, and that taken from under the right Wing, (becauſe it is of a hotter nature.)*

Note 2. *The bloudy juyce from the feathers of the Wings may be uſed for the other bloud, and it is beſt from the young Pigeon.*

The coat of the ſtomach dried and powdered is good againſt Dyſenteries.

The Dung is very hot from the nitrous faculty (wherewith it is indued) and therefore burns, diſcuſſes, and makes the skin red by attracting the bloud.

Hence it is of common uſe in Cataplaſms and Plaſters that rubifie. Beaten, and ſifted, and laid on with Water-creſs Seeds, it is good againſt old diſeaſes: Such as are the Gout, Megrim, * Turn-ſick, old Headach, and pains in the Sides, Colics, Apoplexies, Lethargy, *&c.* It diſcuſſeth *Strumaes*, and other Tumours (*laid on with Barley-flour and Vinegar*) and cures the falling of the hair (*anointed*) and Colic (*in Clyſters*) and diſcuſſeth defluxions on the knees (*applied with ſalt and oyl.*)

* Or dizzineſs, *Vertigo.*

Inwardly, it breaks the Stone, and expels Urine. Give from a ſcruple to two ſcruples. *Schrod.* out of *Galen* and *Fernelius.*

Doves dung (as *Creſcentienſis* ſaith) is beſt of all others for Plants and Seeds, and may be ſcattered when any thing is ſown together with the Seed, or at any time afterwards: One Basket-ful thereof is worth a Cart-load of *Sheeps* dung. Our Country-men alſo are wont to ſow *Doves* dung together with their grain.

§. III.

* *A wild Pigeon of St.* Thomas *his Iſland*, Marggrav.

IT is of the bigneſs and figure of our Country Pigeon, but its upper Bill hooked, the foremoſt half being of a blue colour mixt with a little white and yellow; the hindmoſt of a ſanguine. The Eyes are black, with a circle of blue. The whole body is covered with green feathers like a *Parrot*. The prime feathers of the Wings are duskiſh, as is alſo the end of the Tail. Under the vent it hath yellow feathers. The Legs and Feet are of an elegant Saffron-colour, but the Claws dusky.

§. IV.

A Turtle-dove. Turtur.

THe Male, which we deſcribed from Bill-point to Tail-end was twelve inches long: from tip to tip of the Wings extended twenty one broad: Its Bill ſlender, from the tip to the angles of the mouth almoſt an inch long, of a dusky blue colour without, and red within: Its Tongue ſmall and not divided: The *Irides* of its Eyes between red and yellow. A circle of naked red fleſh encompaſſeth the Eyes as in many others of this kind.

Its Feet were red; its Claws black; its Toes divided to the very bottom. The inner ſide of the middle Claw thinned into an edge.

Its Head and the middle of its Back were blue or cinereous, of the colour of a common *Pigeon*. The Shoulders and the Rump were of a ſordid red: The Breaſt and Belly white: The Throat tinctured with a lovely vinaceous colour. Each ſide of the

the Neck was adorned with a spot of beautiful feathers, of a black colour, with white tips. The exteriour quil-feathers of the Wings were dusky, the middle cinereous; the interiour had their edges red. The second row of Wing-feathers was ash-coloured, the lesser rows black. The Tail was composed of twelve feathers; of which the outmost had both their tips and exteriour Webs white. In the succeeding the white part by degrees grew less and less, so that the middlemost had no white at all. The length of the Tail was four inches and an half.

Its Testicles were great, an inch long: Its Guts by measure twenty six inches: Its blind Guts very short. Its Crop great, in which we found Hemp-seed: Its Stomach or Gizzard fleshy. Above the stomach the Gullet is dilated into a kind of bag, set with papillary Glandules.

§. V.

* *The Indian Turtle of Aldrov.* lib. 15. cap. 9.

THE Hen, excepting the Feet, which are red, and the Bill, which is black, as in the Cock, is all over white. But the Cock hath his Head, Neck, Breast, Wings as far as the quill-feathers, and Back down to the Rump reddish, but of a much fainter colour than in our common Turtle, and not at all spotted. Its bigness is almost the same, its note the same: Its Bill also like, but black. In its Eye is a most manifest difference: For in this the *Iris* is of a most lovely shining Saffron, or rather scarlet colour, which in the common Turtle is only yellow. [In that we described, the *Irides* of the Eyes were between red and yellow.]

The ring also is of a different colour; for in the *Indian* Turtles it is slender, and black, and compasses the Neck round, whereas in the common ones it is more than an inch broad, parti-coloured, and compasses not the Neck. The longer feathers of the Wings, the Rump, and whole Tail are of a dusky colour, having their shafts black, and edges white. The Belly, especially near the vent, is yellow. The Feet red, adorned with whitish* tables. The Claws are dusky, inclining to yellow. They feed upon *Millet*. Thus far *Aldrovandus*. Of this sort of Bird we have seen many kept by the curious in Aviaries and Cages.

* I suppose he means the incisures dividing the scales

§. VI.

* *The Indian Turtle or* Cocotzin *of Nieremberg, the* Picuipinima *of Marggrave: Our least* Barbados *Turtle.*

IT is a little bigger than a *Lark*, *Nieremberg* saith, than a *Sparrow*; hath a small dusky [black] Bill, like a *Pigeons*; black Eyes, with a golden Circle. The whole Head, the upper part of the Neck, the Sides, Back, and Wings are covered with dark ash-coloured, or black and blue feathers, having black, semilunar borders. But the long feathers of its Wings, which are seen as it flies, are of a red colour, and black on one side, and in their tips. The Tail is of a good length, consisting of dusky ash-coloured feathers, yet some of them are black, and have their exteriour half white. The feathers of the Belly are white, having their borders black, of the figure of a Crescent. The Legs and Feet like those of other *Doves*, but whitish. These *Pigeons* are good meat, and grow very fat. *Nieremberg* adds, that the Head is little, the Bill little and black, the Neck short, the Legs red [wherein it differs from *Marggraves* bird,] the Claws dusky and little. The *Mexicans* gave it its name from the colour of its Wings, and the noise it makes in flying; the *Spaniards* (who call it a *Turtle*) from its murmuring voice, and the taste and quality of its flesh, although it be much less than our common *Turtle*. It cries *hu, hu*, affords good nourishment, though somewhat hard of concoction. It is found in Mountainous places, and also near Towns. It is native of the Country of *Mexico*, and very common there. They say, that it will cure a woman of jealousie, if you give it her boil'd to eat, so that she knows not what she eats. There is also another sort of this Bird, every way like it, save only that the body is fulvous and black, and the Head ash-coloured: Whence some call it *Tlapalcocotli*.

This Bird is either the same with, or very like to our *least Barbados Turtle*, which is of the bigness of a *Lark*, being exactly equal to the figure we give of it, taken from the live bird.

§. VI.

§. VII.

The Ring-Dove, Palumbus torquatus.

That we described weighed twenty ounces and an half. Its length from the tip of the Bill to the end of the Tail was eighteen inches: Its breadth thirty.

Its Bill yellowish, covered for some space from the Head with a red or purplish skin, wherein are the Nosthrils. Above the Nosthrils is as it were a white Dandroof. The Tongue is sharp-pointed, not cloven, but channel'd. The circle about the Pupil of the Eye of a pale yellow.

The Feet were bare, of a red colour, as in other *Pigeons*. The outmost Toe by a membrane joyned to the middlemost as far as the first joynt. The Legs feathered almost down to the foot.

The upper part of the Neck is adorned with a semicircular line of white, which they call a ring, and from whence the Bird took its name [*Ring-Dove.*] Both above and beneath this ring the Neck, as it is variously objected to the light, appears of various colours. The Head and Back are of a dark ash-colour. The lower part of the Neck, and upper part of the Brest are purplish, or red, with a certain mixture of cinereous. The Belly of a light ash-colour, inclining to white. In the Cock these colours are deeper than in the Hen.

The quill-feathers in each Wing about twenty four, of which the second is the longest: The ten foremost or outmost were black: The second, and succeeding as far as the seventh, had their utmost edges white: The rest of the hard feathers were of a dusky ash-colour. At the bottom or rise of the bastard Wing a white spot tending downwards covered the ninth, tenth, eleventh, and twelfth quill-feathers. The Tail was seven inches long, and made up of twelve feathers, the top or end, for two inches and an half, being black, the remaining part cinereous.

The Liver was divided into two Lobes: It had no Gall-bladder, but a large Gall-channel to convey the Gall into the Guts.

These Birds in Winter-time company together, and fly in flocks: They build in trees, making their Nests of a few sticks and straws. They feed upon Acorns, and also upon Corn, and Ivy and Holly berries.

§. VIII.

The Stock-Dove or Wood-Pigeon, Oenas, sive Vinago.

It is as big or bigger than a common *Pigeon*. The Cock weighed fourteen ounces and an half, was from Bill to Tail fourteen inches long, and between the tips of the Wings extended twenty six broad. The colour and shape of the body almost the same with that of a common *Pigeon*: The Bill also like, and of equal length, of a pale red colour. The Nosthrils were great and prominent. The top of the Head cinereous. The Neck covered with changeable feathers, which as they are variously objected to the light, appear of a purple or shining green; no Silk like them. The fore-part of the Breast, the Shoulders and Wings are dashed with a purplish or red-wine colour, whence it took the name [*Oenas.*] The Wings, Shoulders, and middle of the Back are of a dark ash-colour, the rest of the Back to the Tail of a paler. All the quil-feathers (except the four or five outmost, which are all over black, with their edges white) have their lower part cinereous, and their upper black. The Tail is five inches long, made up of twelve feathers, having their lower parts cinereous, their upper for one third of their length black. The nether side of the body, excepting the upper part of the Breast, is all cinereous. The Wings closed reach not to the end of the Tail. In both Wings are two black spots, the one upon two or three quil-feathers next the body, the other upon two or three of the covert feathers incumbent upon those quils: Both spots are on the outside the shafts, and not far from the tips of the feathers. The two outmost feathers of the Tail have the lower half of their exteriour Vanes white.

The Feet are red, the Claws black: the Legs feathered down a little below the Knees. The blind Guts very short. It had no Gall-bladder that we could find; a large Craw, full of *Gromil* seeds, *&c.* It had a musculous Stomach, long Testicles; and a long Breast-bone.

§. IX.

* *The Rock-Pigeon:*

THis (as Mr. *Johnſon* deſcribed it to us) hath a ſmall body, aſh-coloured, and red Legs. But theſe two laſt notes are common to moſt *Pigeons*. Perchance this may be the *Columba Saxatilis* of *Aldrovand*, called by the *Bologneſe*, *Saſſarolo*. It is (ſaith he) bigger than the Stone-Pigeons of *Varro*, of a livid colour, having a red Bill, and is altogether wild. It is ſometimes taken in the Territory of *Bologna*.

§. X.

* *The Dove called* Livia *by Geſner.*

IT is in ſhape very like a *Houſe-Dove*, but a little leſs, having red Feet, a whitiſh Bill, with ſomething of Purple about the Noſthrils. The feathers inveſting the body are all over cinereous: But the extreme feathers of the Tail are black, the middle have ſomething of red. The Neck above, and on the ſides is covered with feathers partly purple, partly green, as they are diverſly expoſed to the light, ſhining with this or that colour. The lower part of the Neck is of a colour compounded of cinereous and purple. The four longer feathers of the Wings are black, with ſomewhat of red; the leaſt Wing-feathers are cinereous; the middle partly cinereous, partly black [in their ends] the laſt of them towards the Back are reddiſh. The length of this Bird from the Bill to the end of the Tail was almoſt fourteen inches. It differs from the *Ring-Dove* in that it is much leſs, and hath no white ſpots about the Neck and in the Wings like that.

This Bird, if it be different from the next above deſcribed is to us unknown, as alſo to *Aldrovandus*, who borrows the figure and deſcription of it of *Geſner*.

Chap. XVI.

Of Thruſhes in general.

UNder this title we comprehend alſo *Blackbirds* and *Starlings*. The marks common to all are, A mean bigneſs between *Pigeons* and *Larks*: A Bill of a moderate length and thickneſs, a little bending downwards: The Mouth yellow within-ſide; a long Tail: Promiſcuous feeding upon Berries and Inſects. Moſt of the Birds of this ſort are canorous, and may be taught to imitate mans voice, or ſpeak articulately.

This *Genus* comprehends under it three Species, 1. *Thruſhes* ſtrictly and properly ſo called, having an aſh-coloured Back, and a ſpotted Breaſt. 2. *Blackbirds*, ſo called from their colour. 3. *Starlings*, whoſe characteriſtic is a broader and flatter or more depreſſed bill than that of *Thruſhes* or *Blackbirds*.

* The Thruſh dungs its own deſtruction or miſchief.

That *Latine* Proverb, * *Turdus malum ſibi ipſe cacat*, ſpoken of thoſe who are the cauſe of their own deſtruction, took its original from that ancient conceit, that the paraſitical Plant, called *Miſſelto*, of the Berries whereof in old time Birdlime was wont to be made, ſprang from the Seed voided by the *Thruſh*. *Miſſelto* (ſaith *Pliny*) *ſow it how you will, ſprings not unleſs caſt forth in the Excrements of Birds, eſpecially the* Ring-Dove, *and* Thruſh. *Such is its nature, that unleſs ripened in the belly of Birds it will not grow.* But that *Miſſelto* comes not at all of ſeed may be proved by many arguments, of which the principal is, that ſometimes it grows on upright boughs, and on the underſide or that reſpecting the earth. He that deſires further information concerning this matter may conſult * *Aldrovandus* and *Scaliger*.

* *Tom. 2. p. 585.*

There are four kinds of *Thruſhes* common and well known in *England*: Two abide all the year, and build with us, *viz.* 1. The *Miſſel-bird* or *Shrite*. 2. The *Mavis* or *Song-Thruſh*: Two are Birds of paſſage, coming in the Autumn, continuing here all Winter, and going away next Spring, never breeding with us, to wit, 1. The *Feldefare*: 2. The *Redwing*. Of *Blackbirds* or *Ouzels England* breeds and feeds three kinds, 1. The common *Blackbird*; 2. The *Ring-Ouzels*; 3. The *Water-Ouzel*; of which

which we treat in another place, among the Piscivorous Land-birds. The *Rock-Ouzel* of *Darbyshire* is, if I mistake not, the Female of the *Ring-Ouzel*, although it hath not the least shadow or appearance of a ring. We know but one sort of *Stare*. The *Stone-Ouzel* or greater *Redstart*, as also the *Solitary Sparrow*, and *Witwal*, which we have seen beyond Seas, are strangers and unknown to *England*. To this Tribe we have subjoyned some exotic Birds out of *Marggravius*, for their agreement in bigness or colour, *&c.*

Chap. XVII.

Thrushes properly so called, having a spotted Breast.

§. I.

The Missel-bird or Shrite; Turdus viscivorus major.

This Bird is the biggest of this kind, weighing four ounces and an half. Its length from the tip of the Bill to the end of the Tail was eleven inches. Its breadth eighteen.

Its Bill is streight, like a *Blackbirds*, or for the bigness, a little shorter: The upper Chap dusky, somewhat longer than the lower: The Tongue hard, channel'd and slit at the tip; horny, and pellucid: The inside of the Mouth is yellow: The Nosthrils great, almost of an Oval figure: The *Irides* of the Eyes hazel-coloured. The Legs and Feet yellowish; the Claws black. The outer fore-toe sticks to the middlemost as far as the first joynt, no membrane intervening. The Head is of a dusky cinereous, or lead-colour, the middle part of each feather being blacker. The Back, Tail, and Rump have some mixture of yellow. In Summer it changes colour, and becomes more cinereous. [The colour of the Head, Back, Wings, and Tail, in a word of the whole upper side seemed to me to approach to that of *Spanish* Olives pickled while yet immature, such as are usually brought over to us.] The underside of the body from the Bill to the Tail is speckled with pretty great blackish spots. The upper part of the Breast, the Sides, and feathers under the Tail are yellow, the middle of the Belly white.

The number of quill-feathers in each Wing is eighteen, whereof the second, being the longest, is by measure five inches. The tips of the feathers next incumbent on the quills are white. The Tail is four inches and an half long, and made up of twelve equal feathers.

It hath no Craw: The Gizzard is not very thick or fleshy; therein we found Maggots, Caterpillars, *&c.* though the Bird was killed in *January*. The Guts were great, but short: The blind Guts very little and short. It had a pale-coloured Liver, and a Gall bladder.

Sitting upon the tops of high trees, as Oaks, Elms, *&c.* in the Spring time it sings rarely well. It abides the year round with us in *England*, and breeds here. It is a solitary Bird, accompanying and flying only with its Mate. It is the worst meat of all its kind.

In Winter time it feeds much upon *Holly-berries*. And (which is strange) the birds of this kind are observed each to take possession of his tree, and to be always near it, and not to permit other birds to feed on it, but to beat and drive them away: Which quality of theirs is the occasion that they are easily taken.

A late English Writer saith, that this bird makes as large a Nest as a *Jay*, and lays as big an Egg: Builds commonly with rotten twigs the outside of his Nest, the inside with dead Grass, Hay, or Moss, that he pulls from trees. It seldom lays above five Eggs, but four most commonly, breeds but twice a year, and hath three young ones, never above four, that I could find; She feeds all her young ones with *Missel* berries, and nothing else as I could perceive, having diligently watched them for two or three hours together. *This I can hardly believe, for that the old ones feed upon other berries too, and also Insects.* For Convulsions or the Falling sickness, kill this bird, dry him to a powder, and take the quantity of a penny weight every morning in six spoonfuls of black Cherry water, or the distilled water of *Missel*-berries. The reason of this conceit is, because this bird feeds upon *Missel*, which is an approved remedy for the *Epilepsie*.

§. II.

The Mavis, Throſtle, or Song-thruſh. Turdus ſimpliciter dictus ſeu viſcivorus minor.

IT is called viſcivorous, not becauſe its feeds upon *Miſſelto*-berries, but becauſe it is like the *Miſſel-bird*. It is leſſer than the *Fieldfare*, ſcarce bigger than the *Redwing*, of three ounces weight; from the point of the Bill to the end of the Tail or the Feet, (for all is one) nine inches long. The Bill is an inch long, of a dusky colour. The Tongue, viewing it attentively, appears to be a little cloven: The Mouth within-ſide is yellow: The *Irides* of the Eyes hazel-coloured.

In the colour and ſpots of the Breaſt and Belly it agrees with the *Miſſel-bird*: For the ſpots are dusky; the Breaſt yellowiſh; the Belly white. The upper ſurface of the body is all over dusky, with a mixture of yellow in the Wings. [I ſhould rather call this an Olive-colour, from its likeneſs to that of unripe pickled *Olives*, ſuch as are brought over to us out of *Spain*.]

This Bird for its outward ſhape and colour is ſo like the *Redwing* that they are hard to be diſtinguiſhed: Only this hath more and greater ſpots on the Breaſt and Belly. *Aldrovandus* tells us, that it is proper to this kind to be ſpotted about the Eyes. The leſſer feathers, covering the Wings underneath, are of a yellowiſh red colour: The lower covert-feathers have yellow tips. The quill-feathers in each Wing are in number eighteen. The Tail is three inches and an half long, and made up of twelve feathers.

The Legs and Feet are of a light brown or dusky: The ſoals of the Feet yellow; The exteriour toe grows to the middle one as far as the firſt joynt. It hath a Gall-bladder; the Stomach or Gizzard not ſo thick and fleſhy as in other birds of this Tribe. Its feeding is rather upon Inſects than berries: It eats alſo ſhell-ſnails, which are by moſt Naturaliſts reckoned among Inſects. The Sex cannot be known by the colour. It abides all the year, and breeds with us in *England*. It builds its Neſt outwardly of earth, moſs, and ſtraws, and within dawbs it with clay, laying its Eggs and Young upon the bare clay; it lays at one ſitting five or ſix Eggs of a bluiſh green colour, ſpeckled with a few ſmall black ſpots, thin-ſet. In the Spring time it ſits upon trees and ſings moſt ſweetly. It is a ſolitary bird like the *Shrite*. But it builds rather in hedges than high trees. Moreover, it is a ſilly bird, and eaſily taken.

For the delicate taſte of its fleſh it is by all highly and deſervedly commended. If we ſtand to *Martials* judgment, the *Thruſh* is the beſt meat of all birds:

Inter aves Turdus, ſiquid me judice verum eſt,
Inter quadrupedes gloria prima lepus.

This (ſaith a late Engliſh Writer) is a rare Song-bird, as well for the great variety of his notes, as his long continuance in ſong [at leaſt nine months in the year.] They breed commonly thrice a year, in *April*, *May*, and *June*, but the firſt birds prove uſually the beſt. They may be taken in the Neſt at fourteen days old or ſooner, muſt be kept warm and neat, not ſuffering them to ſit upon their dung if it happen to fall into the Neſt. When they are young you muſt feed them with raw meat, and ſome bread mixt and chopt together, with ſome bruiſed Hemp, wet their bread and mix it with their meat. When they are well feathered, put them in a large Cage, with two or three Perches in it, and dry Moſs at the bottom; and by degrees you may give them no fleſh at all, but only bread and hemp-ſeed. Give them freſh water twice a Week, to bathe themſelves, otherwiſe they will not thrive. If he be not clean kept he is ſubject to the Cramp, like other ſinging birds.

§. III.

The Fieldfare, Turdus pilaris.

IT weighs well nigh four ounces. Its length from the point of the Bill to the end of the Tail, or utmoſt Claws (for they are equally extended) is ten inches and an half: Its breadth, the Wings being ſpread, ſeventeen. The Bill is an inch long, like a *Blackbirds*, yellow ſave the tip, which is black: The Bills of the Hens or young birds are darker and leſs yellow, as in *Blackbirds*; the Tongue is rough, horny, channel'd

channel'd in the middle. The edges of the Eye-lids being yellow make a yellow circle round the Eye. The Nostrils are great. In the lower part of the nictating membrane is a black spot. The Ears are large: The Feet black, but the Claws more: The outer Toe is joyned immediately to the middle one as far as the first joynt.

It seems to be somewhat bigger than a *Blackbird*, and the second in bigness of this kind, or next to the *Missel-bird*.

The Head, Neck, and Rump are ash-coloured, [in some of a deep blue.] The crown of the Head sprinkled with black spots [which yet in some birds are wanting.] The Back, Shoulders, and covert feathers of the Wings are of a dark red or Chesnut-colour; the middle parts of the feathers being black. The Throat and upper part of the Breast are yellow, spotted with black, the black spots taking up the middle parts of the feathers. The bottom of the Breast and Belly are white, and less spotted. The covert-feathers of the sides under the ends of the Wings are white: Thence a red or yellow line separates the white from the black. On each Cheek it hath a black stroak reaching from the Bill to the Eyes. It hath also on both sides, at the bottom of the Neck, just by the setting on of the Wings, a black spot. The number of quil-feathers, as in the rest, is eighteen, the outmost of which are black, with white edges; the inner have something of red, The covert-feathers of the inside of the Wings are white. The Tail is four inches and an half long, composed of twelve feathers, of a dark blue or blackish colour: Only the tips of the outmost feathers are white, and the edges of the middlemost ash-coloured.

The Liver is divided into two Lobes, and furnished with its Gall-bladder: The Muscles of the Gizzard are not very thick. I found no footstep of the passage for conveying the Gall into the Guts.

These Birds fly in flocks together with *Stares* and *Redwings*. They shift places according to the seasons of the year. About the beginning of Autumn come over incredible flights of them into *England*, which stay with us all Winter, and in the Spring fly all back again, not one bird remaining; insomuch that (as far as ever I could hear) there was never seen young *Fieldfare* or *Redwing*, or so much as a Nest of those birds with us in *England*. Whither they betake themselves, or where they breed is not to us perfectly known: It is by some reported, that they breed in *Bohemia*; others tell us with much confidence, in *Sweden*. They have a hoarse chattering note, not much unlike a *Magpie*; by reason the sides of the fissure in the Palate are rough; as we conjecture.

This kind of *Thrush* (saith *Gesner*) loves to feed upon Berries of all sorts, especially those of *Juniper*. With us in *England* they are very greedy of *Holly-berries*. This bird is accounted very good meat, and preferred far before the *Missel-bird*. In open weather they feed upon Worms, and other Insects, lying much upon Meadows and Pasture-grounds.

§. IV.

The Redwing, Swinepipe, or Wind-thrush, Turdus Iliacus sive Illas aut Tylas.

IT is rather less than the *Mavis*; not exceeding two ounces and an half in weight. Its length from Bill-point to Tail-end is eight inches and an half: Its Bill an inch long; the upper Mandible dusky, the lower partly dusky, partly yellow. Its Tongue hard and rough, the tip being divided into many Filaments. The Mouth within side is yellow: The *Irides* of the Eyes of a dark hazel colour. The Legs and Feet pale: The outer Toe joyned to the middle below, as in the rest of this kind.

The upper side of the body is of the same colour with that of the *Mavis*: The Breast not so much spotted. The covert-feathers of the under side of the Wings, and of the sides of the body under the Wings, which in the *Mavis* are yellow, in this kind are of a red Orange-colour, by which mark it is chiefly distinguished from it. The belly is white, as in the *Fieldfare*: The Throat and Brest yellowish, spotted with dusky spots, which take up the middle parts of the feathers. The sides of the Breast and Belly are in like manner spotted. The spots are less, but thicker set than in the *Mavis*. Above the Eyes is a long spot or line of a clay colour, reaching from the Eyes to the hinder part of the Head.

The number of quill-feathers in each Wing, as in the rest of this kind, and almost all small birds, is eighteen: These are more red or chesnut-coloured than the rest of the

the feathers: They differ also in divers birds; for in some the edges of the outmost feathers are white, which are not so in others. The tips of the two inmost quill-feathers, as also of the second row of feathers, beginning from the tenth, are white. The Tail is three inches and an half long, consisting of twelve feathers.

The Gizzard like those of the precedent: The blind Guts in like manner very short. We found in this some remainder of the channel conveying the Yolk into the Guts. The Liver is large for the bulk of the body, and hath its Gall-bladder appendant. In the Stomach dissected we found divers sorts of Insects, Snails, *&c.* It comes to us from beyond Seas, as the *Fieldfare*, with which it flies in company, observing the same times of coming and returning. Whither it goes, and where it breeds is not to us certainly known: Perchance in the Mountainous parts of *Bohemia* or *Hungaria*, as *Gesner* saith he had heard. Its flesh by reason of its bitterness is less esteemed.

Dr. *Charleton* thinks they are called in *English*, *Wind-Thrushes*, because about the beginning of Winter, when strong Winds blow, by which perchance they are assisted in their passage, they come flying over to us from beyond Seas. I rather think, we borrowed that name from the *Germans*, who call this bird *Wyntrostel*, that is, *Vineyard Thrushes*, because, as *Bellonius* reports, they feed upon Grapes, and are very noisom to the Vineyards: So that they are by mistake called *Wind-Thrushes*, their true name being *Wine-Thrushes*.

§. V.

* *The Brasilian* Tamatia *of Marggrave.*

THis Bird is of the bigness of a *Lark* or small *Woodpecker*, all spotted like a *Throstle* or *Mavis*: On the Belly it hath white feathers, with dusky spots. It is yellow under the Throat, as also about the Neck. It hath a long, red Bill, a little dusky above, the upper Chap somewhat longer than the nether. Above the Nosthrils stand up certain slender feathers like hairs or bristles. It hath four Toes in each foot, and crooked Claws. Its Head is bigger than the proportion of the body requires, as also its Bill. Not knowing better whither to refer this bird, for its agreement with *Thrushes* in bigness and colour, I have placed it here.

Chap. XVIII.

Birds of the Thrush-kind, that are black of colour.

§. I.

The common Blackbird, Merula vulgaris.

IT is little, or nothing less than a *Fieldfare*; of four ounces weight; nine inches and an half long from the tip of the Bill to the Claws, to the end of the Tail ten and an half, and the Cock eleven.

The Bill is an inch long, in the Cock of a deep yellow; in the Hen the tip and upper part is black. The Mouth in both Sexes is yellow within. The Bill in young Cock-birds is black, and turns not perfectly yellow till they be near a year old. The circumference of the Eye-lids is also yellow. The Cock, after he hath mewed his chicken feathers, becomes cole-black; the Hen and young Cock-birds are rather brown, or of a dark russet than black: Their Breasts have something of reddish, and their Bellies of ash-colour. The Cocks while young cannot be distinguished from the Hens by their colour.

The number of quill-feathers in each Wing is eighteen, of which the fourth is the longest. The Tail is four inches and an half long, made up of twelve feathers of equal length save the two outmost, which are somewhat shorter than the rest.

The Feet are black: The outmost fore-toe and the back-toe are equal: And the outmost Toe joyned to the middlemost at bottom, as in the rest of this kind.

The Liver is divided into two Lobes, and hath its Gall-bladder annexed. The Gizzard not very fleshy nor thick, as in the rest. It feeds promiscuously upon Berries and Insects. I could not find any remainder of the Yolk-channel in the Guts.

The

The Cocks in this kind are very canorous, whistling and singing very pleasantly all the Spring and Summer-time, only their note is too loud and shrill near hand.

The Hen lays four or five Eggs, seldom more at once, of a bluish green colour, full of dusky spots and lines.

On the *Alps*, the *Appennine*, and other high Mountains are sometime found birds of this kind all over white. We our selves saw one in a Poulterers Shop at *Rome* parti-coloured of black and white. But this we look upon as accidental: Either the coldness of the Region, or the constant intuition of Snow effecting this alteration of colour, as in *Crows*, *Ravens*, &c. So that we do not think a white *Blackbird* (pardon the seeming contradiction *in adjecto*) to differ specifically from a black one.

The *Blackbird* builds her Nest very artificially without side of Moss, slender twigs, bents, and fibres of roots, cemented and joyned together with Clay instead of Glue, dawbing it also all over within side with Clay: Yet doth she not lay her Eggs upon the bare Clay, like the *Mavis*, but lines it with a covering of small straws, bents, hair, or other soft matter, upon which she lays her Eggs, both that they might be more secure, and in less danger of breaking, and also that her Young might lie softer and warmer.

The *Blackbird* loves to wash it self, and prune its feathers with its Bill. It flies also singly for the most part: Whence it took the name *Merula* in *Latine*, being (as *Festus* and *Varro* tell us) so called because it flies and feeds *Mera*, that is, solitary or singly.

The flesh of *Blackbirds* is accounted good meat, yea, some prefer it before that of the *Thrush*. But Palate-men, and such as are critical in discerning of tastes, are of another opinion.

§. II.

The solitary Sparrow.

Meeting with a Female of this kind at *Florence* in *Italy*, I thus described it. It is of the bigness of a *Blackbird*, and for shape of body very like it, nor much different in colour.

The Head and Neck were thicker than to answer the proportion of the body. The top of the Head was of a dark ash-colour. The Back was of a deep blue, almost black, only the extreme edges of the feathers were whitish. The Shoulders and covert-feathers of the Wings were of the same colour. Each Wing had eighteen quill-feathers, besides a little short one outmost, all dusky, but some had white tips. The second row of Wing-feathers had also white tips. The Tail was about four inches long, and composed of twelve black feathers. The underside of the Body Breast, Belly, and Thighs, was all variegated with black, cinereous, and whitish transverse waved lines, so that in colour it resembled a *Cuckow*. Under the Throat, and in the upper part of the Breast no ash-colour appeared, and the white lines had something of red mingled with them. The Bill was streight, blackish, rather longer than a *Thrushes* Bill, as also a little thicker and stronger. The Legs short and black: The Feet and Claws black. The Legs, Feet, and Claws in this sort seemed to me lesser than in the rest of the *Thrush-kind*. The Mouth within was yellow, the stomach filled with Grapes.

The Cocks are much more beautiful, all over of a shining blue, or bluish purple colour, as *Aldrovandus* witnesseth, and as we also observed in a Cock we saw at *Rome*, whose Back especially was of a most lovely glistering dark purple colour.

It is wont to sit alone on the tops of ancient Edifices and Roofs of Churches, singing most sweetly, especially in the Morning, whence it took its name, being supposed to be the bird spoken of, *Psalm* 102. 7. It builds also in the like places, for which *Olina* is my Author. For the excellency of its singing it is highly prized in *Italy*, specially, at *Genua* and *Milan*. It hath a whistling note like a Pipe, and may easily be taught to imitate mans voice.

§. III.

§. III.

† Ornithol. l. 16. c. 8.

* *The Blue-bird of Bellonius*, Passeri solitario congener, † *Aldrov.*

THere is also (saith *Gesner*) another bird akin to the *solitary Sparrow*, of the *Blackbird* kind, frequenting rocky places, whence by the *Grecians* it is called, *Petrocossyphus*, [that is, the *Rock-Ouzel* or *Blackbird*] by our Country-men *Steinrotele*, esteemed in like manner for its singing. In another place he thus discourses concerning the same bird: This (*viz.* which * *Bellonius*, whose words he had cited, calls *Merula torquata*, *i. e.* Ring-Ouzel) seems to be the very same with that bird of which *Raphael Seillerius* of *Augsburg* lately wrote to me in these words. The bird which from its blue colour the *Germans* call *Blauvogel* is of the bigness of a *Stare*, hath his Breast, Loins, and Neck of a lovely blue, yet darker than the *Kingfisher*. The Back and Wings are somewhat black, yet shewing something of blue. The Bill is an inch and half long, under the Nosthrils dusky, the upper Chap being hooked, and covering the nether, for the most part. The Feet are divided, as in other birds. It lives in the highest parts of the *Alps*, neither is it contented to abide in the tops of the Mountains, but chuses the most rocky and craggy places, and such as are covered with Snow, neither do we know certainly that it is found in any other place than the Mountains about the River *Athesis*, especially near the City of *Insprnck*. For this cause it is had in great account even by the Inhabitants themselves of those places, and is fed with such meat as men usually eat, and such as is usually given to *Blackbirds* and *Thrushes* designed for fowling. It speaks with an articulate voice very pleasant and various; and is it self so docile, and observes things so diligently, that it will express most things by some articulate sound. Being awakened at Midnight, and called upon by a by-stander, as if it were bidden, it will sing with a clear and loud note. Like other birds, it aims at mens Eyes, because seeing in them, as in a Looking-glass, its own image, it is affected with a desire of its like, and thinks to joyn it self in company with it. Before the Autumn, at what time other birds sit, and are busie in bringing up their Young, together with its colour it changeth also its voice. Its colour about the beginning of Winter of blue becomes black, which about the beginning of next Spring it changes again into its own natural blue. Being fully fledg'd, and once got out of the Nest, and a little accustomed to flying, it cannot any more (as all the Fowlers affirm) by any allurement or deceit be enticed and taken, so naturally crafty it is. It makes its Nest in deep holes in very high and unaccessible solitudes, having found a secure place, to which it may safely commit it self and its Young. And by its cunning doth not only remove it from the access of men by placing it on the highest ridges of the Mountains, but also hide it in deep Caverns from the *Chamois*, and other wild beasts, and there it feeds three or four Young with worms, till it brings them out of the Nest, and turns them loose to shift for themselves. Now the Fowlers having either by chance, or by lying in wait, found out the place, taking with them a long, round, smooth stilt or stake, made of a singular piece of wood, hard to be found (such as the climbers of Rocks and hunters of *Chamois* are wont to make use of to assist them in getting up the crags and cliffs of Rocks) mount up there where you would not think it possible for them to find room to set one foot. And to omit nonothing, they wrap their heads with cloth, covering their faces so far that they may see side-ways, to avoid dizziness; and this they do partly to fence them against the old birds, partly, and chiefly (this being the true cause of their so doing) to hinder their prospect any ways but just forward, to see where they are to pitch their stake, or clap on their hands. So at length, not without extreme toil and danger, they arrive at the Nest, which with that long pole or stake I mentioned they draw up out of the deep hole where it was placed, and carry away with them, cherishing, and bringing the Young up at their own houses: And afterwards either sell them dear, or present them to Gentlemen and great persons of their knowledge. Thus far *Seillerius*. I suspect that this very bird, which *Gesner* calls *Blauvogel*, is the same which about *Chur* in the *Grisons* Country and elsewhere is called *Steirotele*, or near akin to it.

* Cap. de Cæruleo.

* Lib. 1. Observ. cap. 11.

* *Bellonius*, who thinks this bird to be the *Cyanus* or (as *Gaza* translates it) the *Cæruleus* of *Aristotle*, writes thereof in this manner. That bird which *Aristotle* calls *Cyanus*, *Pliny*, *Cæruleus*, because it haunts among the Rocks of the high Mountains, and is like a *Blackbird*, is now by the *Grecians* commonly called *Petrocossypho*, that

that is, the *Rock-Ouzel*. It is leſſer than a *Blackbird*, and blue all over, kept in Cages, and highly eſteemed for its ſinging. Its voice is the ſame with the *Blackbirds*. It hath no *French* name, becauſe it is not found in *France*, nor yet in *Italy*, unleſs brought thither in Cages. It is ſometimes taken out of the Neſt to be taught ſo ſpeak articulately. * In another place, where he alſo treats profeſſedly of this bird, adding a figure of it; although (ſaith he) we call the bird by *Ariſtotle* entitled *Cyanus*, by *Gaza* rendred *Cæruleus*, In *French Merle bleu*, yet we do not this as if it were known to *France*; but becauſe of the Countrimen of *Epidaurus*, who uſe divers Idioms, ſome who ſpeak *Italian* call it, * *Merlo biavo*, others who ſpeak *Greek*, *Petrocoſſypho*, others who ſpeak *Dalmatic* call it ſimply, *Merle*. Kept in a Cage it ſings more ſweetly even than a *Blackbird*. For which reaſon the Countrimen of *Illyricum*, who live among the Rocks, take them out of the Neſts, and carry them to the Cities to ſell. It is not found in *France*, unleſs brought in from abroad. It builds in the tops of Mountains, as we obſerved in *Candy*, *Citharæa*, *Corcyra*, *Zacynthus*, and *Eubœa*, now commonly called *Negroponte*. *Ariſtotle* alſo in the fore-quoted place making mention of it, ſaith it was commonly ſeen among the Rocks in *Scyros*. *Ariſtotle* compoſing his Hiſtory of Animals at *Athens*, ſent abroad men through divers Countries to ſearch out all kinds of living Creatures: In *Scyros* the Mountains are cragged, with many Rocks. But to make a brief, compendious deſcription of this bird, we need but imagine a ſmall *Blackbird* of a blue colour; for juſt ſuch a one is this bird. It is full of tongue, and ſeldom deſcends into the plain Country. It breeds for the moſt part five Young, and never more. It affords as good and better nouriſhment than a *Blackbird*, flies ſwifter, and uſes the ſame food. All this out of *Bellonius*; whom *Aldrovandus* pronounces miſtaken, in that he thought this bird to be the *Cyanus* of *Ariſtotle*. Himſelf, with *Geſner*, deeming the *Cyanus* of *Ariſtotle* to be of the *Woodpecker* kind: Which how he proves ſee in this place.

* *Lib. 6. de Avibus, cap. 26*

* *The blue Ouzel.*

Turner conjectures the *Cæruleus* of *Ariſtotle* to be that bird which is called in *Engliſh*, a *Clot-bird*, a *Smatch*, an *Arling*, a *Stonecheck*, and in *High Dutch*, *Ein Brechvogel*. This he ſaith in *England* breeds in Coney-burrows, and under ſtones, and appears not in Winter. The *Engliſh* names and place of building argue *Turner* to have meant the common *Oenanthe* or White-tail; which is a far different bird from the *Cæruleus* of *Bellonius*.

For my part, to ſpeak freely what I think, I judge the *Blauvogel* of *Geſner* to be the very ſame bird with the *ſolitary Sparrow*; but the *Cæruleus* of *Bellonius* to be a bird ſpecifically different, and which I have not yet ſeen alive, though I have often ſeen its picture.

§. IV.

The Indian Mockbird, Cæruleus Indicus.

WE ſaw this Bird dried in *Tradeſcants* Cabinet. It is of the bigneſs of a common *Lark*, hath a ſtreight ſharp Bill, a long Tail: And is all over of a blue colour. Upon ſecond thoughts, however *Tradeſcant* might put the Epithete of *Indian* upon this bird, I judge it to be no other than the *Cæruleus* or *Blue Ouzel* of *Bellonius*, deſcribed in the precedent Article.

§. V.

* *Aldrovandus his Braſilian* Merula, Book 16. Chap. 16.

Bellonius figures this bird among the *Merulæ*, induced only by this reaſon, that thoſe who bring it out of *Braſil* into *Europe* call it, the *Braſilian Blackbird*. Wherefore ſeeing he ſpeaks nothing concerning the nature of the Bird, and it is alike unknown to me, I alſo adjoyn it to the *Merulæ*, although in the ſhortneſs, or rather crookedneſs, of its Bill it differs much from them. Thoſe (ſaith *Bellonius*) who trade in Countries newly diſcovered, bring back thence ſuch ſtrange rarities as they think will ſell dear with us here: But becauſe they cannot bring the birds themſelves alive in Cages, therefore they flay off the skins of ſuch as are more beautiful than the reſt, as this is, and bringing them over make a great gain of the ſale of them; eſpecially of this which they call, the *Braſilian Blackbird*; though in bigneſs it differs from a *Blackbird*. The colour of the whole body, except the Tail and Wings, which

are black; is so deep [perchance by the word *intensè* he may mean bright] a red, that it exceeds all other redneſſes. The Tail is long; the Feet and Legs black; The Bill ſhort, as in a *Sparrow*. The feathers are red to the very bottom. That which *Aldrovandus* deſcribes, perchance from a picture, was in ſome things different from *Bellonius* his bird. For, ſaith he, the Wings are not all over black, but all the upper feathers by the ſhoulders of a deep red. Next to them are ſome black ones, then red ones again; the ſubſequent, *viz.* all the great feathers, being black, as is alſo the Tail. The Bill alſo is not ſo ſhort as in *Sparrows*, yet thick, and remarkably crooked, without of a dusky colour, within yellow, as I conjecture from the colour of the corners of the mouth [*rictûs.*] Moreover, the Feet are not black, but of an aſh-colour, only a little dusky, being great for the proportion of the Legs: The Claws ſhort, but crooked, of the ſame colour.

We have ſeen in *Tradeſcants* Cabinet a red *Indian* bird dried, of the bigneſs almoſt of a *Mavis*, having a long Tail, which perchance is the ſame with the bird in this Article deſcribed.

§. VI.

* *The Roſe or Carnation-coloured Ouzel of Aldrov.* lib. 16. cap. 15.

THis bird our Fowlers call, the *Sea-Starling*. It is ſeen ſometimes in our fields, and is much among dung-heaps. To me it ſeems rather to be a kind of *Ouzel* [*Merula*] than *Starling*. For a *Starling* is ſpotted, which this is not. It is ſomewhat leſs than a *Blackbird*, hath its Back, Breaſt, and Wings above of a Roſe or Carnation colour, its Head tufted, its Wings and Tail black, the prime feathers being near a Cheſnut colour: The Bill next the Head black, elſe of a fleſh colour: The Feet of a deep yellow or Saffron-colour. The Cock in this kind is of a more lively and lovely colour. The head of the Hen is in colour like to the Cocks, but the Neck, Wings, and Tail not ſo black as his. They become very fat, and are accounted good meat.

We have not as yet ſeen this bird, neither do we remember to have elſewhere read or heard any thing of it.

§. VII.

The red-breaſted Indian Blackbird, perchance the Jacapu *of Marggrave.*

WE ſaw the Caſe of this bird in *Tradeſcants* Cabinet. It was of the bigneſs and ſhape of a *Blackbird*, as far as I could judge by the dried skin. The colour of the whole upper ſide was black; only the edges of the feathers about the Rump were aſh-coloured. The Breaſt was of a ſcarlet colour: The Bill like a *Blackbirds*: The Tail alſo long, and like a *Blackbirds*.

I take this to be the ſame bird, which *Marggrave* deſcribes under the title of *Jacapu* of the *Braſilians*, though he attribute to it only the bigneſs of a *Lark*. It hath (ſaith he) a long Tail, ſhorter Wings, ſhort and black Legs, with ſharp Claws on the four toes: A Bill a little crooked and black, half an inch long. The whole body is covered with ſhining black feathers; yet under the Throat ſpots of a Vermilion colour are mingled with the black. This bird differs from ours in its ſmalneſs, and the ſhortneſs of its Bill.

§. VIII.

The Ring-Ouzel, Merula torquata.

IT is like, and equal to, or ſomewhat bigger than the common *Blackbird*: From Bill to Tail eleven inches long, to the end of the Feet ten and a quarter; the Wings extended were by meaſure ſeventeen inches. The Bill more than an inch long, of a dark dusky or blackiſh colour. The mouth yellow within ſide: The Tongue rough. The *Irides* of the Eyes are of a dark hazel colour: The Legs and Feet dusky. The outer Toe is joyned to the middle as far as to the firſt joynt. The colour of the upper ſide of the body is a dark brown, or ruſſet, inclining to black. The feathers covering the Breaſt and Belly are marked with a long whitiſh ſpot down the ſhaft, having

having also white edges. The Ring or Collar is below the Throat, just above the Breast, of a white colour, an inch broad, of the form of a Crescent, the horns ending at the sides of the Neck.

It hath eighteen quil-feathers in each Wing; twelve in the Tail, the outmost being a little shorter than the rest; four inches long. The exteriour feathers of the Tail are blacker than the middlemost. The small feathers under the Wings whitish.

[In a bird that I described at *Rome* the edges of the prime feathers of the Wings, as also of the covert-feathers of the Head and Wings were cinereous. The ring also was not white, but ash-coloured. I suppose this was either a young bird, or a Hen.]

It hath a large Gall, and a round Spleen: In the Stomach we found Insects, and Berries like to Currans. These Birds are common in the *Alps* in *Rhætia* and *Switzerland*: They are also found in the mountainous parts of *Derbyshire*, *Yorkshire*, and elsewhere in the North of *England*.

They say that the Female of this kind hath no ring: Whence I perswade my self that the bird which I sometimes described for the *Merula Saxatilis* or *Montana*, that is, the *Rock-Ouzel* of *Gesner*, p. 584. was no other than a *Hen Ring-Ouzel*.

It nearly resembles the common *Blackbird* in bigness, figure, and colour; yet is in some things manifestly different; *viz.* it is a thought bigger, hath a longer body, and not so dark a colour. Its length from the tip of the Bill to the end of the Tail was ten inches and an half, to the end of the Claws nine and an half: Its breadth one foot and five inches: Its weight three ounces and two drachms. The top of the Head, the Shoulders, Back, Wings, and Tail, in a word, the whole upper side was of a dark brown or dusky colour. The number of quill-feathers in each Wing eighteen. The Tail was four inches and an half long, not forked, black, made up of twelve feathers. The underside, *viz.* the Breast, Belly, Sides, Thighs, and under-coverts of the Wings, particoloured of brown and white, or rather cinereous; the middle part of each feather being brown, and the borders round about cinereous.

Its Bill is every way like the common *Blackbirds*, excepting the colour which in this is of a dark brown, or blackish. The inside of the mouth, as in that, yellow. The Legs are of a moderate length, and dusky colour, as also the Feet and Claws.

The Guts indifferent large, but not very long, and consequently not having many revolutions: The blind Guts small, white, and very short, as in the rest of this kind. The Stomach or Gizzard was of a moderate bigness, filled partly with Insects, partly with the purple juyce of Bill-berries, which had also tinctured all the excrements of the Guts.

It is usually conversant about the Rocks and steep Cliffs of high mountains. This we described was shot by *Fr. Jessop* Esq; on a Cliff or Scar, called *Rive-edge*, where they dig Mill-stones, not far from a Village called *Hathers-edge* in the Mountains of the Peak of *Derbyshire*, where the Inhabitants call it *Rock-Ouzel*.

§. IX.

* *The Rock Ouzel, or Mountain Ouzel of Gesner, called in High Dutch*, Berg-Amzel, Merula Saxatilis seu Montana.

IT differs from the *Ring-Ouzel*, 1. In that it wants a Ring. 2. In that the Throat is *red, with black spots, the Belly is cinereous, with black spots. 3. That the extreme edges of the great Wing-feathers are whitish, and the lesser rows have sometimes white spots in their middle about their shafts. But these differences are not to me so considerable, as to induce me to believe that this bird is a *Species* different from the *Ring-Ouzel*; at least if it be true, that the Hen in that kind wants a ring, and differs other ways in colour from the Cock, as we have been informed. Yet will we not be very confident or positive, but refer it to further inquiry and observation.

* *Rufſa*, it may be rendred russet.

To these may be added *Aldrovandus* his 1. *Merula bicolor, described *lib.* 16. *cap.* 12. varied with two colours especially, *viz.* dusky or blackish, and reddish yellow. 2. † Merulæ congener, *Aldrov. lib.* 16. *cap.* 13. having a red line near the Bill. 3. *Merulæ congener alia, in *Chap.* 14. of the same Book, like to the ash-coloured *Butcher-bird*. Which, because we have not seen, nor read of elsewhere, we omit: Whosoever pleases may look out their figures and descriptions in the places cited. The second of these *Aldrovandus* saw only painted, neither did he see the first alive.

*Ouzel of two colours.

† Of kin to the Ouzel.

* Another bird of kin to the Ouzel.

Chap. XIX.

Of the Starling, and Birds akin to it.

§. I.

A Stare or Starling, Sturnus.

THe Cock weighed three ounces and an half, the Hen three. From Bill to Claws it was nine inches long, to Tail end eight and three quarters. Its breadth was sixteen inches. It is of the bigneſs and ſhape of a common *Blackbird*. Its Bill from the tip to the angles of the mouth an inch and a quarter long, in the Cock of a pale yellow, in the Hen dusky, broader and more depreſſed than in *Thruſhes* or *Blackbirds*, by which * mark eſpecially it differs from them. The upper Mandible is equal to the nether: The Tongue is hard, horny, and cloven: The *Irides* of the Eyes of a hazel colour, whiter on the upper part. It hath the nictating membrane, which I believe few birds want. The Legs and Feet are yellowiſh, [rather of a fleſh colour:] The Claws blackiſh. The outer and inner fore-toe are equal to each other; and the outer joyned to the middle toe as far as the firſt articulation. The Legs feathered down to the Knees.

* This we make the characteriſtic note of this kind.

The tips of the feathers on the Neck and Back are yellow: The feathers under the Tail cinereous, elſe they are black all the body over, with a certain blue or purple gloſs, varying as it is variouſly expoſed to the light. In the Hen the tips of the feathers on the Breaſt and Belly, to the very Throat, are white. In the Cock the Back participates more of purple, the Rump of green; only the lower Belly is more ſpotted.

All the quil-feathers are dusky; but the edges of the third, and ſubſequent to the tenth, and from the fifteenth again to the laſt are more dark. The covert-feathers of the Wings gliſter, and the tips of the leſſer coverts are yellow. The feathers covering the underſide of the Wings are dusky, having pale-yellow edges.

The Tail is three inches long, made up of twelve dusky feathers with pale yellow edges: It lays four or five Eggs lightly tinctured with a greeniſh blue.

The blind Guts as in the reſt of this kind are very ſhort and ſmall, nearer to the Fundament than in others. The muſcle of the Gizzard not very thick: The Guts thirteen inches long. It feeds upon Beetles, Worms, and other Inſects. It hath a Gall-bladder.

Stares are gregarious birds, living and flying together in great flocks. They company alſo with *Redwings* and *Fieldfares*; yet do they not fly away with them, but abide with us all Summer, breeding in the holes of Towers, Houſes, Trees, *&c.*

This kind ſometimes varies in colour. For we have ſeen in *Wales* two white *Starlings*; one with a black Head, and all the reſt of the body white at *Aberdaren*, a little Village in *Carnarvanſhire*. *Stares* are not eaten in *England* by reaſon of the bitterneſs of their fleſh: The *Italians*, and other Outlandiſh people are not ſo ſqueamiſh, but they can away with them, and make a diſh of them for all that. It is a notable bird at imitating mans voice, and ſpeaking articulately.

§. II.

* *Bontius his Indian Stare.*

IT reſembles our Country *Stare*, in the Sea-green and dark blue feathers, ſpotted with cinereous ſpots; but it hath a yellow Creſt on the Neck, and its Head is ſet with black ſoft feathers, that feeling of it you would think you touched Velvet. It imitates mans voice much more accurately than a *Parrot*, ſo that oftentimes it is troubleſome with its pratling.

§. III.

§. III.

The greater Redſtart of Olina, called by Aldrovand, *Merula Saxatilis, *at Florence,* †Tordo Marino, *at Vienna,* Stein-Reitling.

*i.e. The Rock Ouzel.
†*i.e.* The Sea-Thruſh.

IT is equal in bigneſs, and like in ſhape to a *Starling*. Its length from the tip of the Bill to the Claws nine inches and an half. The meaſure of the Wings extended fourteen. The Bill is more than an inch long, broad and flat, as in *Stares*, not round, and riſing up in a ridge, as in *Blackbirds*, black of colour: The upper Chap longer, ſharp-pointed, and ſomewhat crooked. The mouth within yellow. The Tongue a little cleft at the end. The Legs and Feet of a lead colour; the Claws black; the ſoal of the foot yellow. The outer Toe grows or is faſtned immediately to the middle one as far as the firſt joynt; the inner toe is a little ſhorter than the outer. The Chin underneath is whitiſh: The tips of the feathers on the Breaſt cinereous. Beneath the Breaſt is a tranſverſe black line; below which the Plumage is of a red or deep Orange-tawney colour. The Head and Back brown, the tips of the feathers being cinereous. The quil-feathers of the Wings of a black brown, with reddiſh tips. The Tail conſiſts of twelve feathers, of a red tawney or Orange colour, whence it took the name of the greater *Redſtart*. The leſſer feathers under the Wings are of the like colour.

Its Stomach was fleſhy, and ſtuffed with the ſtones of certain berries, we knew not what. Its Guts were eleven inches long. It imitates mans voice, learning to ſpeak articulately, like the *Stare*.

The Hens are paler-coloured; above being of a Mouſe-dun, ſpotted with white ſpots; underneath rather hoary. Thoſe parts which in the Males are fulvous, in the Females are of a pale yellow.

Lighting upon three or four of theſe birds at *Florence*, comparing them together, I [*J. R.*] deſcribed them as exactly as I could in theſe words.

It is equal in bigneſs, and like in ſhape to a *Throſtle*. Its colour is various, on the top of the Head and Neck mingled of a dirty white or aſh-colour and brown, ſo that it appears grey or hoary. Viewing each ſingle feather, the bottom or lower part is blue; the middle part about the ſhaft black, which black line near the tip of the feather is croſſed by another, which together repreſent the figure of the letter T in each feather. The very tips of all are white. The colour that fills up the angles of the T-like mark is dusky. Theſe colours in the Neck, Shoulders, upper part of the Back, and covert-feathers of the Wings are more bright and conſpicuous. The feathers on the middle of the Back in the Cock-birds are marked about their middles with a large white ſpot, above which is a croſs line of blue, then one of black, and laſtly, their tips are red. The bottom of the Back about the Rump is more cinereous or blue. The feathers incumbent on the Tail are red, with white tips. The great feathers of the Wings have their tips and exteriour edges white, elſe they are black: The greater covert-feathers are alſo of the ſame colour. The feathers covering the underſide of the Wings are of a pale red or yellow colour.

The Tail is ſhort, ſcarce exceeding three inches, made up of twelve feathers of equal length, all red or fulvous, excepting the two middle, that are dusky, which yet in ſome birds are alſo above half red. It is here to be obſerved, that all the Tail-feathers have their outer edges toward the top, of the ſame colour with the middle feathers.

The nether ſide of the body, *viz.* the Throat, Breaſt, Belly, Thighs, are parti-coloured of white or grey, black and yellow. [In ſome Cock-birds the whole Belly was of a fulvous colour, ſpeckled with many white ſpots, and a few black ones.] The Throat and upper part of the Breaſt are darker than the Belly, for that the fore-mentioned colours are there more mingled and confounded, whereas in the belly they are more diſtinct, and make greater ſpots. If you heed each feather, you ſhall find the bottom to be blue, in the middle a yellow ſpot, encompaſſed with a black line, and the top white. The Wings are long, reaching almoſt to the end of the Tail. The deſcription of the Bill and Legs we have already given in Mr. *Willughby*'s words, and have nothing further to add concerning them.

It is ſaid to abide and build in mountainous places. It is kept in Cages for its ſinging. I ſuſpect that *Bellonius* his ſolitary *Sparrow* is the ſame with this bird, though the deſcription anſwers not exactly in all things.

§. IV.

§. IV.

* *The Braſilian* Pitanga guacu, *called by the Portugueſe,* Bemtere, *Marggrav.*

IN bigneſs it is equal to a *Stare*; hath a thick, broad, Pyramidal Bill, a little more than an inch long, *outwardly ſharp: A broad, compreſſed Head: A ſhort Neck, which ſitting it contracts or draws up: A body near two inches and an half long: The Legs and Feet dusky: Four Toes diſpoſed in the uſual manner. The Head, upper ſide of the Neck, the whole Back, Wings, and Tail of a dark brown or black, mingled with a little green. The under ſide of the Neck, the Breaſt, and lower Belly have yellow feathers. But above, by the Head it hath a Crown [like that of a Monk] of a white colour. It hath a loud ſhrill cry. Some of theſe birds have on the top of their Heads a yellow ſpot, and ſome have it partly of a clay colour; elſe in all things like. This kind is called by the *Braſilians, Curiri.*

* *Exterius acuminatum,* I confeſs I do not well underſtand what our Author means by theſe words.

Chap. XX.

Atinga guacu mucu *of Marggrave.*

IT is about the bigneſs of a *Throſtle:* Hath a great Head, a Neck of a moderate length, a body three inches long: The Bill a little hooked, of a colour mingled of green and yellow, ſanguine Eyes, with a black Pupil. The Legs are aſh-coloured, of a moderate length, above [the Knees I ſuppoſe he means] covered with feathers: In the Feet four Toes diſpoſed after the uſual manner: an exceeding long Tail, *viz.* of about nine inches, conſiſting of about ten feathers; of which ſome of the lower are ſhorter than the upper. The whole Head, Neck, Back, Wings, and Tail have brown or *fuligineous feathers, which in the Tail are darker-coloured than the reſt. The end of each feather of the Tail, for about half an inch, is white, and between the white and red [part] ſhaded with black. The Throat, Breaſt, lower Belly, and Thighs are covered with aſh-coloured feathers. On the Head it hath long feathers, which it can ſet up like two horns. It is a bird remarkable for the length of its Tail. For its agreement in bigneſs, its Bill, and ſome other accidents, we have ſubjoyned it to the *Thruſh-kind.*

* Of the colour of Soot.

Chap. XXI.

The Witwall, as it is by ſome called, Galbula ſeu Picus nidum ſuſpendens, *Aldrov.* Oriolus *Alberti*; Chloreus Ariſtotelis, & Icterus Plinii, *in Aldrovandus his judgment.*

THis bird from the beginning of the Bill to the end of the Tail was by meaſure ten inches long: Equal in magnitude to, or ſomewhat bigger than a *Thruſh:* Its Bill more than an inch long, red, like a *Thruſhes,* but bigger, and longer: Its Tongue cloven and rough: The *Irides* of its Eyes red: Its Legs, Feet, and Toes of a Lead-colour. The hind-Toe near the riſe of it was broad and callous. The outer Toe joyned to the middle, as in the reſt of this kind, up to the firſt joynt.

The quil-feathers of the Wings were black: But the tips of the fifth, ſixth, and ſeventh, alſo of the tenth, and four ſubſequent white, and the utmoſt edges of the third and fourth. The foremoſt feathers of the ſecond row were almoſt half way of a pale yellow: Elſe the upper ſurface of the whole Wing black. The twelve feathers of the Tail were of equal length, *viz.* about three inches and an half: The two middlemoſt black, the reſt had their upper halfs yellow, their lower black. All the body beſide was of a bright yellow, very beautiful to behold: So that for the luſtre and elegancy of its colours it ſcarce gives place to any of the *American* birds. Between the Eyes and Noſthrils on each ſide it had a black ſpot.

In

In the Female the colours are not ſo fair and lively, the yellow being mingled with black and brown, the Breaſt ſhaded with dusky lines: The leſſer rows of Wing-feathers, and the two middle feathers of the Tail green. The young ones alſo are greener, and have their Breaſts ſpotted.

The Guts are ſixteen inches long, great and lax: the blind Guts very ſmall and ſhort: The Teſticles round. In the Belly we found Caterpillars.

We ſhot this bird near *Frankeford* in *Germany*. Afterwards we ſaw many of them at *Naples* in the Poulterers Shops: Whence we gueſs that they are frequent in the neighbouring Country.

The ſtructure of the Neſt, and how artificially it hangs it, ſee in *Aldrovand.* The *Low Dutch* call this bird by a very fit name, *Goutmerle*, that is, the *golden Ouzel:* For it agrees with *Thruſhes* or *Blackbirds*, in the ſhape of the Bill and the whole body; in the bigneſs, alſo food, and manner of living. It is called *Galbula* or *Galgulus*, from its yellow colour.

It is a bird of paſſage. *Geſner* writes, that it comes into his Country for the moſt part in *May*, but ſometimes alſo in *April:* After whoſe coming they have certain hope that there will be no more froſts. Whence it appears, that it delights in hot places and ſeaſons. It feeds wonderfully fat, hath very delicate fleſh, and yields wholſom nouriſhment; and no wonder, ſith it is akin to the *Thruſhes*, and uſes the ſame food, *viz.* Inſects and Berries.

Chap. XXII.

* Matuitui *of Marggravius.*

IT is of the bigneſs of a *Stare:* Hath a ſhort Neck, a ſtrong Breaſt, ſhort Legs, a Tail two inches and an half long. It hath a ſtreight, ſtrong Bill, the upper Chap whereof is a little prominent, the point inclining downwards, of a Vermilion colour. The whole Head, upper ſide of the Neck, Back, Wings, and Tail are brown, ſpotted with a pale yellow, partly ſpeckled like a *Sparrow-Hawk.* Under the Throat it hath yellow feathers. The Breaſt and Belly are white, ſpeckled with brown. The Legs of a dark aſh-colour.

Chap. XXIII.

* Guirapunga *of Marggrave.*

THe cry of this Bird may be heard a great way off. It is bigger than the *Miſſel-bird*, almoſt equal to a *Pigeon:* Hath a Bill an inch long, and pretty broad, * ſharp-pointed; the upper part a little prominent above the lower, and bending downward, black, having wide or open Noſthrils. Its Mouth is large, the ſlit reaching as far as the Eyes; ſo that the aperture of the Mouth with the Bill forms a triangle. It hath a ſhort Tongue; Eyes between black and blue. Under the Throat, (which is broad) and in the lower part of the Neck it hath many black fleſhy Wattles an inch long, hanging down before, of the figure of the point of a Spear. The Head is covered with dark brown feathers: The whole Neck, Breaſt, Belly, Back, and Thighs with aſh-coloured, wherewith (eſpecially in the Back) are ſome black ones mixed, and toward the Tail alſo green ones. It hath a Tail three inches long, conſiſting of aſh-coloured and black feathers mingled with a little green. The Wings (which end not far below the riſe of the Tail) are firſt black, then brown, ſome dark green feathers being intermingled. The lower Legs are black, and above an inch long. It hath four Toes in each foot like other birds, with black Claws. The Breaſt is as it were divided into two, having a valley or furrow all along the middle. The Windpipe is large, whence alſo it hath a loud and ſtrong cry.

* *Anteriùs acutum.*

It hath a double note, which it uſeth promiſcuouſly; one like that of a Hammer ſtriking a Wedge in the Woods, (*cick, cock:*) The other, as if one ſhould ſtrike a crackt Bell, [*Kur, kur, kur*, &c.] It cries only in the middle of Summer, in *December* and the beginning of *January* for five or ſix Weeks, in other Months it is not heard, whence by the *Portugues* it is called *Ave de verano.*

The

The Hen *Guirapunga* is of the bigneſs and figure of our *Throſtle*, and alike fleſhy: Hath a broad Head; a Bill alſo broad, and not very long: A wide mouth when it gapes: A black Bill: Pretty great Eyes: A Tail ſome three inches long, or ſomething more; neither do the Wings reach to the end thereof. The whole bird is clothed with blackiſh feathers, with which ſome brown and pale green ones are mingled; yet the colour in the Back is browner, in the Throat, Breaſt, and Belly a more delayed green, and mingled like that of a *Throſtle*. It is a fat and well-fleſhed bird. The Legs and Feet are black, in other particulars not different from the common rule.

Book I. Part II. Sect. II.

Of ſmall Birds.

Of ſmall Birds in general.

Small Birds in general may be divided into ſlender-bill'd, which are for the moſt part Inſectivorous; and ſuch as have ſhort and thick Bills, which are for the moſt part Phytivorous, living upon the fruits and ſeeds of Plants. The firſt kind are commonly called ſoft-beak'd, the ſecond hard-beak'd birds.

Of both kinds there are many ſubalternate *Species*, *viz.* of ſlender-bill'd, *Larks*, whoſe characteriſtic notes are a very long * heel; earthy coloured feathers, mounting up in the air, and ſinging as they fly; *Swallows*, whoſe marks are a ſhort Bill, a wide Mouth, long Wings, a forked Tail, ſhort and ſmall Legs and Feet; ſwift, and almoſt continual flight: The *Hedge-Sparrow*, *Redſtart*, *Robin-red-breaſt*, and many others, which we divide into two *Claſſes* or ranks. The firſt is of ſuch whoſe Tail is only of one colour; the ſecond of thoſe whoſe Tails are particoloured; either all the feathers, or the outmoſt on each ſide being in part white.

* By heel is meant the claw of the back-toe.

Of thick-bill'd Birds the kinds are, the *Sparrow*, whoſe marks are an earthy or teſtaceous colour, a Bill a little crooked, feeding upon Corn, the *Hawfinch*, the *Greenfinch*, the *Shel-apple* or *Sheld-dapple*, the *Linnet*, the *Chaff-finch*, the *Gold-finch*, the *Siskin*, &c. whoſe characteriſtics we will give when we come to treat of them.

An Addition concerning ſinging birds in general.

America (as *Marggravius* obſerves) breeds more fair-coloured birds, but fewer ſinging birds than *Europe*.

As we have diſtinguiſhed ſmall birds in general into ſoft and hard beak'd, ſo may we alſo diſtinguiſh ſinging birds. The ſoft-beak'd are, The *Mavis* or *Song-Thruſh*; the *Blackbird*; the *ſolitary Sparrow*, which is a ſtranger to *England*; the *Nightingale*, eſteemed the Prince of all ſinging birds, of the rearing and ordering of which we ſhall treat at large when we come to his Hiſtory; the *Skie-Lark*; the *Wood-Lark*; the *Tit-Lark*; the *Robin-red-breaſt*; the *Wren*; the *Black-cap*; the *Beccafigo*; the *Redſtart*; and the *Hedge-Sparrow*.

The hard-beak'd are, The *Canary bird*; the *Linnet*; the *Chaffinch*; the *Goldfinch*; the *Greenfinch*; the *Bulfinch*; the *Brambling*; the *Hortulane*; the *Siskin*; the *Citril*, the *Hirngril*; the *Yellow-hammer*.

In all ſinging birds in general obſerve to keep them very neat and cleanly; and therefore often to ſhift the ſtraw, moſs, gravel, or whatever elſe you put in the bottoms of their Cages; and to give them freſh water, and meat often; for nothing offends them more than the ſtench of their own dung, or putrid meat and water. Beſides, if their Cages be foul, they will be apt to clog their Feet with their dung, which often rots off their toes, at leaſt cauſes the Cramp, Gout, and other infirmities. *Aldrovandus* adviſes to put in their Cages a piece of Pumice ſtone, or old rubbiſh, to cleanſe and whet their Bills upon, which otherwiſe will be apt to grow blunt.

All Birds (ſaith he) are wont to ſwallow ſomething out of the earth to cleanſe their bodies; I rather think they uſe only to ſwallow ſome grit or gravel, to aſſiſt them in grinding their meat in their Gizzards; and therefore it is needful to put fine gravel in their Cages.

In

In the rearing of young ones from the Neſt obſerve, 1. To feed them often, but to give them but little at a time, as the old ones do, for fear of over-charging their ſtomachs, and cauſing them to caſt up their meat. 2. After they begin to feed themſelves, give not over feeding them preſently, leſt they neglect and ſtarve themſelves.

Hard-beak'd birds are to be fed with ſeeds, and of all ſeeds *Aldrovandus* commends Canary-ſeed, as the moſt ſavoury, pleaſant, and wholſom of all other, which makes them ſing with greater alacrity, and alſo live long: For want of which you may (ſaith he) give them Millet, Panic, Spelt, Off-corn-wheat, Hemp-ſeed, and Lime-ſeed; he might have added Rape-ſeed, Cole-ſeed, and many others.

Soft-beak'd birds are to be fed with heart of Veal or Weather, Worms, Flies, and ſuch kind of Inſects, as alſo that ſort of paſte the receipt whereof we ſhall give you in the Hiſtory of the *Nightingale.*

In preparing their meat have a care to free it from all skin, fat, and Sinews, or ſtrings, which will be apt to ſtick in their Throats, or twine about their Tongues, and cauſe them to fall off their meat, *&c.*

Aldrovands method to make birds ſing in Autumn or Winter.

ABout the beginning of *May* purge them with Beet, firſt mingling the juyce of it with their water; then giving them no water at all, but only hanging up Beet-leaves in their Cages, putting in alſo a handful of earth and rubbiſh. Then by degrees accuſtom them to darkneſs for ten days, putting them ſtill in places darker and darker, and at laſt in a room perfectly dark, that hath not the leaſt chink to let in light. During all the time of their impriſonment in this dungeon, no body muſt come in there but their Keeper, and he with a Candle once in three days to give freſh water and meat, and to cleanſe their Cages: [It would be convenient to have two Cages, and change them every twentieth day.] Every fourth day give them a Beet-leaf, and every tenth day juyce of Beet, elſe they will incur the danger of growing blind. In this manner they muſt be kept till about the tenth of *Auguſt*, and then new purged, after the manner we before preſcribed; and then by degrees again accuſtomed to the light, but by no means expoſed to the Sun-beams for fear of blinding them. This doing you ſhall be Maſter of your purpoſe.

Diſeaſes incident to ſinging birds, and their remedies.

1. *Lindneſs*, which if radicated and confirmed is incurable; taken at firſt, when their Eyes begin to water, may be remedied by giving them Sugar diſſolved in the juyce of Beet every other day for four days, and putting into their Cages a twig of Figtree to rub their Eyes againſt; which by the inſtinct of nature they will uſe to do.

2. The *Falling ſickneſs*, which *Aldrovand* alſo accounts an incurable diſeaſe. If they eſcape the firſt fit he adviſes preſently to cut their Claws to the quick, and ſprinkle them with Wine, and to keep them from the heat of the Sun all Summer.

3. *Fractures* of the bones of their Legs or Wings: In which he adviſes by no means to ſplinter or bind up the part; but only to take away the Perches out of their Cages, and to ſet their meat and water in the bottom of their Cages; and keep them where no company comes to ſcare them.

4. *Swellings* and inflammations or impoſtumes.

5. An *Hydropical diſtemper.*

6. The *Gout*, known by roughneſs and ſwellings in their Legs and Feet, eſpecially their Knees.

7. The *Phthiſic* or ſubtile diſeaſe, in which their breaſt veins are diſtended, but the fleſh fallen away, and their Bellies ſwelled as though they had the Dropſie. In all theſe diſtempers *Aldrovand* adviſes ſtill to purge with Beet, as was before preſcribed.

8. *Aphthæ*, or ſmall Ulcers in their mouths, for the cure of which diſſolve Pumpion ſeeds in water, and give it them for their drink for three or four days, and when you perceive them to mend, give them fine Loaf-Sugar in like manner diſſolved in water.

9. The *Pip*, which may be known by the hardneſs of the end of their Tongue: Small birds (ſaith a late Engliſh Writer) that feed upon Seeds are very ſeldom ſubject

to this diſeaſe; but moſt commonly *Throſtles*, *Blackbirds*, and *Stares*, which feed upon ſoft meat. I have alſo known *Nightingales* to be troubled with it, that have been fed too much with Eggs hard-boyled. For the remedy of this (for the bird will never eat his meat kindly, nor ſing with any ſtomach ſo long as he hath it) take the bird in your hand, and having opened his Bill, with a Needle take that hardneſs off from the top of his Tongue, and the ſides of his Bill alſo; and give him as in the precedent diſeaſe.

10. The *diſeaſe* of the *Rump*, known by the birds growing melancholy, and abſtaining from ſinging. The beſt remedy whereof is to cut off that ſharp part that lies upon the top of the Rump, and give him ſome cleanſing thing in his meat, and refreſhing thing in his water.

11. The *flux* of the *Belly* or *Scouring*. For remedy whereof pluck off the Tail-feathers, and the feathers about the Vent, and anoint the place with Oyl or Capons greaſe, and if they be hard-beak'd birds, inſtead of Hemp-ſeed, or Rape-ſeed, give them Pumpion ſeeds [or red Beet ſeeds] for two or three days; if ſoft-beak'd, give them nothing but the yolks of hard-boyl'd Eggs.

12. *Moulting* or caſting their feathers is a kind of diſeaſe common to all birds. At that time they all grow melancholy, and ceaſe to ſing, and forſake their meat, and ſome of them will be very ſick. For help of this *Aldrovand* adviſes to ſprinkle them twice or thrice a Week with Wine not too ſtrong, then ſetting them in the Sun till they be dry, and after putting ſome greens about their Cage.

To preſerve birds of all kinds in health, *Aldrovand* ſaith, it would be uſeful to purge them once a month with Pumpion ſeeds decorticated, Lettuce, Succory, Beet, Pimpernel, or Mercury, which laſt herb is proper to the *Linnet*. Such birds as are uſed to duſt themſelves, it would without doubt be convenient to put ſand or duſt in their Cages; for this basking themſelves in the duſt rids them of Lice and Vermine: Likewiſe, ſuch as are uſed to waſh themſelves ought to have water ſet them for that purpoſe.

It would alſo be of advantage, indeed it were neceſſary, to put a little fine gravel in their Cages, that they may pick up and ſwallow ſome grit or ſmall ſtones, to help them in grinding their meat in their ſtomachs, as wild birds are uſed to do, in whoſe Gizzards you will never fail to find ſmall ſtones and grit.

Olina adviſes in tumours or impoſtumes on the head, (which are moſt incident to birds of a hot complexion) to cauterize the place affected with a hot Iron, and then anoint it with black Sope diſſolved, or Oyl and hot aſhes. Some uſe to purge the birds, before they burn them, with juyce of Beet.

For the *Aphthæ* he preſcribes lightly to touch the Palate with a feather dipt in honey of Roſes, which hath been ſharpned with a little Oyl of * *Sulphur*.

* Brimſtone.

For the *Aſthma*, or ſhortneſs of breath, he adviſes to drop two or three drops of *Oxymel* into their throats with a feather; mingling thereof alſo with their water for two or three days, or diſſolve white Sugar-candy in their water.

Hoarſeneſs and loſs of voice he ſaith is remedied by giving them for their drink a decoction of Jujubes, dried Figs, and pounded, boil'd in common water, and that for two days, and the next two or three days juyce of Beet: And if it be in Summer time ſetting them all night in the open air, ſo as the dew may not fall upon them.

For a ſcouring he commends water in which Iron is quencht, or a light decoction of Services, or Cornelian Cherries.

For coſtiveneſs he adviſes to put a feather anointed with oyl into the Fundament once or twice a day for two days, giving them alſo the ſame days juyce of Beet.

For the Gout: Waſhing the Legs and Feet twice a day for four or five days with a decoction of the root of white Hellebore in common water, as hot as the Bird can endure it; and for want thereof bathing it with Brandy Wine, or Aqua Vitæ.

To ſtir up and quicken birds to ſing, give them ſomewhat that they are moſt greedy of, and moſt delighted in, or ſomething that is heating. Some uſe to give them Linſeed mingled with Pine-kernels pounded; putting in their drinking Cup two or three Chives of Saffron, encompaſſing their Cages with ſome pleaſing verdure, as of

Birds fed with Paſte are wont to have their drinking Cup ſet without their Cages; Seed-birds within. Keep their Cages neat, and in the bottom put in Winter-time hay or ſtraw broken, in Summer-time ſand. So far *Olina*. I ſuppoſe it would be convenient to give them a little gravel in their Cages all times of the year for the reaſon before intimated.

The

The First Member or Subsection,

Of small Birds with slender Birds.

Of these there are many sorts. All besides Swallows may conveniently enough be divided into such as have the feathers of their Tails all of one colour, and such as have a particoloured Tail. We will first treat of *Larks* and *Swallows* by themselves, then we will reduce the rest to the now mentioned heads.

Chap. I.

Of Larks.

§. I.

Of Larks in general.

A Lark, called by the *Grecians* Κορυδαλὸς from the word Κόρυς, signifying a Helmet, by the Latines also *Cassita* and *Galerita*, from *Cassis*, and *Galea*, or *Galerus* of like signification (which names do yet properly agree to the crested *Lark*) is distinguished from other sorts of Birds, 1. By its long Heel or Claw of the back-toe; which is the characteristic mark of this bird: 2. By the testaceous or earthy colour of its feathers: Which note is not common to all the Birds we comprehend under this title, nor proper to this kind, sith it agrees to *Sparrows*, and other Birds: 3. By its singing as it flies mounting up in the air. We have in *England* observed four sorts of *Larks*: 1. The most common one: 2. The Wood-Lark: 3. The lesser crested Lark: 4. The Tit-Lark.

§. II.

The common Skie-Lark. Alauda vulgaris.

IT is not much bigger than a *House-Sparrow*, yet longer bodied; of an ounce and half weight: from the tip of the Bill to the Claws or Tail-end, (for they are equally extended) six inches and a quarter. The ends of the great feathers in the Wings stretched out were ten inches and a quarter distant. The Bill, measuring from the tip to the angles of the Mouth, was three quarters of an inch long: The upper Mandible black or horn-coloured, the lower commonly whitish. The Tongue broad, cloven, hard: The Nosthrils round. It sometimes ruffles up the feathers of its head, almost in fashion of a Crest. A cinereous Ring or Crown compasses the hind part of the Head from Eye to Eye, but more sordid, and less conspicuous than in the *Wood-Lark*. The Head is of a testaceous or reddish ash-colour, the middle parts of the feathers being black. The Back is of the same colour with the Head: The Chin whitish: The Throat yellow, with brown spots: The sides of a reddish yellow. Each Wing hath eighteen quil-feathers. Of these all betwixt the sixth and seventeenth have blunt, indented, white tips. The edges of the four or five outmost are white, of those next the body cinereous, of the rest reddish.

The Tail is three inches long, consisting of twelve feathers, of which the outmost on each side hath both its upper half, and also the exteriour Vane of the lower white: The next to this hath only its outer Web white, the inner being black: The three following on each side are black. The two middlemost are sharp-pointed; of which that that lies undermost when the Tail is shut hath ash-coloured edges: That which covers it lying uppermost, towards the tip is cinereous, toward the bottom blackish. The Feet and Legs are dusky: The Claws black, with white tips. The outer toe grows to the middle below as in other small birds.

The Liver is divided into two Lobes, the left much less than the right, that there may be room for the Gizzard, which in this bird is fleshy, and great for the bigness of the bird. The flesh is very sweet and delicate. In mild Winters it feeds wondrous

fat: And there are then taken an innumerable number with us in *England* for the furniſhing and adorning of our Tables, as *Polydore Virgil* truly writes. It builds upon the ground, and lays four or five Eggs at once: A late Writer ſaith three or four, and that to his knowledge he never found five in all his life.

This Bird builds (ſaith *Olina*) in plain, open ground, under ſome clod of Earth; others ſay in Corn, or thick high graſs in Meadows: And though in Winter we ſee great flocks of them, yet we find the feweſt of their Neſts of any birds that are ſo plentiful. He makes his Neſt of dried herbs and ſtrings, and breeds thrice a year, in *May*, *July*, and *Auguſt*, rearing his young very ſuddenly: So that if you have a Neſt, you muſt take them as ſoon as they are ſpoon-feathered, or elſe you run the *riſco* of loſing them, for they will get them gone of a ſudden. This bird breeds much later than the *Wood-Lark*, by almoſt two months, for ſhe ſeldom hath young ones before the middle of *May*.

Young Neſtlings may be brought up almoſt with any meat, but if you give them ſheeps Heart and Egg chopt together, till they are about three weeks old, it will not be amiſs: And when they come to eat alone, give them Oatmeal, Hemp-ſeed and bread, mixed together with a little Egg. *Olina* ſaith, to ſave charges, you may feed them with Wheat, Oats, and Millet. Theſe birds that are ſo young may be brought up to any thing, one bird learning another birds Song. You muſt always obſerve to give them ſand at the bottom of the Cage, and let them have a new Turf every week placed in a diſh of water in their Cage, (which muſt be as large as two of the *Wood-Larks* Cage.) They need have no Pearches in their Cages.

The Cock may be known from the Hen, according to *Olina*, by having his heel ſo long that it reaches beyond his knee; and having two black ſpots on his Neck, one on each ſide, ſomewhat in faſhion of a Ring or Collar; his breaſt darker, and more ſpeckled with black, and a groſſer body. My Engliſh Author ſaith, that thoſe you intend to keep for ſinging were beſt be taken in *October* or *November*, and then they will ſing a little after *Chriſtmas*; and adviſes to chuſe the ſtreighteſt, largeſt, and loftieſt bird, and he that hath moſt white in his Tail, for theſe (ſaith he) are the uſual marks for a Cock. If you find him very wild and buckiſh, tie his Wings for two or three weeks, till he is become both acquainted and tame alſo, and then when you perceive him pretty orderly, untie his Wings, ſtill letting him hang in the ſame place he did. You muſt feed this old bird with Hemp-ſeed, Bread, and a few white Oats, for he takes great delight to huſk the Oats: And when he begins to ſing, once in a week you may give him a hard Egg, or ſhred him a little boyled Mutton, or Veal, or Sheeps heart. You muſt obſerve in this bird, as in all others, that you give it no ſalt meat, nor bread that is any thing ſalt.

§. III.

The Woodlark, called at Rome, Tottovilla.

THe Cock we made trial in weighed an ounce and a quarter: Its length from Bill to Tail was ſix inches and an half: The diſtance between the ends of the Wings ſpread twelve inches and an half.

It is leſſer than the common *Lark*, and ſhorter bodied. Its Bill, as in the reſt of this kind, ſtreight, ſlender, ſharp-pointed, above half an inch long, ſomewhat flat, of a dusky colour: Its Tongue broad, cloven: The *Irides* of its Eyes hazel-coloured: Its Noſthrils round. Its Feet of a pale yellow, inclining to fleſh colour: Its Claws dusky; that of the back-toe longeſt. The outmoſt fore-toe ſticks to the middle below near the divarication.

The Breaſt and Belly are of a pale whitiſh yellow; the Throat deeper coloured; both ſpotted with black in the middle parts of the feathers. The Head and Back are particoloured of black and reddiſh yellow, the middle of each feather being ſpotted with black. The Neck is aſh-coloured. A white line encompaſſeth the Head from Eye to Eye like a Crown, or Wreath. The Rump is of a yellowiſh red or tawny.

Each Wing hath eighteen prime feathers; the outmoſt being much ſhorter than the reſt. The next five are half an inch longer than the reſt, having their points ſharp, and their outer edges white: The reſt have blunt points, indented as it were in the middle, having yellow edges. The feathers of the baſtard wing are dusky with clay-coloured tips, and at its root is a white ſpot. The ſmall feathers on the ridge of the Wing are aſh-coloured. The Tail was two inches long, conſiſting of the uſual number

number of feathers, *viz.* twelve, not forked; yet the middle feathers were ſomething ſhorter than the reſt, and ended in ſharp points, being between green and a ſordid red or fulvous colour. The four next on each ſide had blunt points, were whitiſh at tips, the outmoſt moſt, the reſt in order leſs, elſe blackiſh.

It hath no Craw: In the Stomach we found Beetles, Caterpillars, Gromil-ſeed, *&c.* The ſtomach was provided with ſtrong and thick muſcles. The blind Guts in this kind, as in all other ſmall birds, that we have obſerved, are very ſhort: The Gut below theſe appendants is larger.

Theſe birds fly many together in company, ſinging as they fly with a note not much unlike a *Blackbirds*.

It is diſtinguiſhed from the common *Lark*, by the following marks eſpecially: 1. Whiſtling like a *Blackbird*. 2. A Circle of white feathers encompaſſing the Head from Eye to Eye like a Crown or Wreath. 3. The firſt or outmoſt feather of the Wing being much ſhorter than the ſecond, whereas in the common *Lark* it is near equal. 4. The outmoſt feathers of the Tail having white tips. 5. That it ſits upon trees. 6. It is leſſer than the common *Lark*, but hath a ſhorter, and thicker, or rounder body for its bigneſs.

Aldrovandus makes no mention of this bird that I know of. *Olina* figures and deſcribes it in his *Uccelleria* under the title of *Tottovilla*.

The *Woodlark* is comparable to the *Nightingale* for ſinging, and by ſome preferred before it. He will alſo emulate the *Nightingale*, and hath great variety of notes.

It is a very tender bird, and yet breeds the ſooneſt of any in *England*. My Author ſaith, that he hath had a Neſt of young birds ready to fly by the ſixteenth of *March*: That it builds moſt commonly in lays, where the graſs hath been pretty rank, and is grown ruſſet, under ſome large Turf, to ſhelter its Neſt from the wind and weather. He could never bring up a neſt of young ones, becauſe they either had the cramp, or fell into a ſcouring in leſs than a weeks time after he had taken them: Nor could he ever hear of any who had kept them ſo long as till they ſung. So that they are never bred from the Neſt.

The Seaſons of taking Woodlarks, and which beſt to keep.

There are three ſeaſons of taking *Woodlarks*; 1. The firſt is in *June*, *July*, and *Auguſt*, when the Branchers are taken, having not yet moulted. Theſe birds ſing preſently, but continue their ſinging but little, for they ſoon fall a moulting. They are commonly very familiar birds as being taken young.

2. The next ſeaſon for taking them is in the latter end of *September*, which my Author calls the general flight-time, when they rove from one Country to another. By this time they have all moulted their feathers, and you can hardly diſtinguiſh a young bird from an old. The birds taken at this ſeaſon are brave, ſtrong, and ſprightful; and prove well at Spring if they be well kept all Winter; otherwiſe they will be louſie, and quite ſpoiled. They uſually begin not to ſing till after Spring, and continue till *July*.

3. The third ſeaſon is from the beginning of *January* to the latter end of *February*, when they are paired, and have parted with their laſt years Brood. Theſe ſing within three or four days, or a week at furtheſt, (if they be well conditioned birds) and will ſoon become tame. For your fearful, wild, buckiſh birds ſeldom prove good: For upon every turn they bolt againſt the ſides of the Cage, and bruiſe themſelves, and ſo are apt to leave off ſinging. Therefore if you have a bird that is a good bird and wild, have a Net knit *French* Meaſh, and put it in the inſide of the Cage, ſowing it cloſe to the ſides and ſtrait, that when he bolts or flirts he may take no harm. Birds taken at this ſeaſon for the moſt part prove the beſt, they being in full ſtomach, and ſinging in a very ſhort time after, and being alſo more perfect in their ſong than thoſe taken at other ſeaſons.

How to order a Woodlark when taken.

In the firſt place you muſt have a Cage with two pans; one for mixt meat, and another for Oatmeal and whole Hemp-ſeed. Firſt, boil an Egg hard: Then take the crum of a half-peny white-loaf, and as much Hemp-ſeed as the bread: Chop your Egg very ſmall, and crumble your bread and it together: Then bruiſe your Hemp-ſeed very ſmall with a rolling pin, or pound it in a Mortar, mingle all together and give

give it him. 2. You must put red gravel sifted fine at the bottom of his Cage; for he delights to bask himself in the sand, which if he doth not pretty often he proves lousie, and then seldom comes to any thing: If you leave gravel-stones in the sand, he will be apt to break his feathers in basking him. Shift this sand twice a week, otherwise he will be subject to clog his feet with his dung. 3. Be sure that his meat be not too stale, for he will never thrive upon it when dry or mouldy. 4. Have a great care to shift his water oft [thrice a week at least] for it stinks sooner than any birds water; because throwing about his meat some falls into it, which causes it immediately to stink. 5. Line your Pearch in the Cage with some green bays, or else make a Pearch of a Mat; which I have found them very much to delight in.

Note 1. If your bird be very wild when he is taken, keep him three or four days from company, till he begins to eat his meat. Strew some of the Hemp-seed and Oat-meal upon the sand, and some of his mixt meat also, because sometimes they find not the Pan till they be almost famished.

Note 2. If he be very poor, at the beginning of the Spring give him every two or three days a turf of three-leaved grass, and boil him a sheeps heart, and mince it small, and mingle it with his meat, and it will cause him to thrive exceedingly.

Note 3. If you would have your bird sing very lavish, feed him all the time of his song with some sheeps heart mixt with his Egg and bread and Hemp-seed; and put in his water two or three slices of Liquorice, and a little white Sugar-candy, with two or three blades of Saffron; do so once a week, and it will cause him to be long winded.

How to know a Cock from a Hen.

The surest way to know a Cock from a Hen is, 1. The largeness and length of his call. 2. The tall walking of the bird about the Cage. 3. At Evenings the doubling of his note, which we call *Cudling*, as if he were going to roost: But if you hear him sing strong you cannot be deceived, for Hen-birds will sing but little. The use of this is chiefly to know those birds that are taken at flight-time; because those taken at other seasons sing soon after they are taken, or not at all.

The Woodlarks Diseases, and their Cures.

Their diseases are, 1. The Cramp, caused by dung clogging and numbing their Feet, if their gravel be not often shifted; or by hanging them out abroad in the rain, so wetting the sand they sit upon. This is helpt by lining their Pearch, that they may delight to sit upon it, and giving them fresh sand, anointing them as the *Nightingale*.

2. Giddiness in the Head occasioned by feeding upon much Hemp-seed, is helped by giving them some Gentles or Maggots, or else Hog-lice, or Ants and their Eggs: And putting three or four slices of Liquorice in their water.

3. Lousiness and Scurf: Cured by smoaking his feathers with Tobacco, and giving him fresh Gravel, and setting him in the Sun: For if he hath strength to bask in the sand he will immediately rid himself of the Vermine.

§. IV.

The Tit-Lark, Alauda pratorum, *Aldrov.*

IT seemed to us less by half than the common *Lark*, weighing scarce an ounce; having a long body, and a small head: A slender sharp Bill of half an inch long, the upper Mandible black, more flat and depressed toward the Head: The tip of the Tongue is jagged, the Circle about the Pupil hazel-coloured. The colour on the top of the Head, Shoulders, and middle of the Back various, of a yellowish green and black; the middle parts of the feathers being black, the outsides or edges of a yellowish green. The lower part of the Back or Rump is only green without any mixture of black. The upper side is of the fore-mentioned various colour, the single colours being less conspicuous by reason of a small mixture of cinereous. As for the underside of the body, the Breast and sides under the Wings were of a sordid yellowish white, spotted with black, the lower belly and Throat under the Chin white, without any black spots.

The

The quil-feathers of the Wings were dusky, their exteriour edges being of a yellowish green. The middle feathers of the first row of coverts have their tips and exteriour edges white; and the middlemost of the second row theirs still of a lighter white. The rest of the covert-feathers of the Wings are almost of the same colour with the scapular feathers. I suppose it is peculiar to this kind to have the four first quill-feathers equal.

The Tail is made up of twelve feathers, the two outmost of which on each side, are particoloured of white and brown: In the outmost feather about the one half, and that the uppermost, is white, the white dividing the feather obliquely. Of the next feather the tip only is white: The rest of the feathers are of a dark brown, having their exteriour edges of a yellowish green. Of the two middlemost the edges round about are of the same yellowish green, not so even and trim as those of the other feathers, but as it were jagged or fringed. The Tail, when folded up, is a little forked, near three inches long.

The Feet are yellow: The Claw of the back-toe, as in the rest of this kind very long and dusky. The Gizzard not so musculous as in other *Larks*, wherein we found Beetles and Insects like to meal-worms. The blind Guts are something longer than in the common *Lark*. It hath also a Gall-bladder.

This bird sits also upon trees. In general it is less than the common *Lark*, greener, and not so finely coloured: In length from the point of the Bill to the end of the Claws or Tail (for they are equally extended) six inches: In breadth between the tips of the Wings spread out ten and a quarter.

Mr. *Jessop* suspects that there is yet another different sort of this bird, which may be called the *lesser field-Lark*, which is 1. A little bigger than that here described; 2. Less green; 3. Having paler Feet; And 4. much shorter Spurs. The lesser field-Lark.

The *Titlarks* Nest I once saw in a *Furze-bush* not far from the ground: It was built outwardly of Moss, inwardly of straw, with a little horse-hair. She lays five or six Eggs.

In this kind the Cock is all over more yellow than the Hen, but especially under the Throat, on the Breast, Legs, and soals of the Feet.

"The *Titlark* (saith a late English Writer) sings most like the *Canary bird* of any "bird whatsoever; whisking, curring, and chewing: But his Song is short, and hath "no variety in it: He comes with the *Nightingale* about the beginning of *April*, and "goes about the beginning of *September*. The Young are to be fed, when first taken, "after the same manner as the *Nightingale*: The old one (if taken) in like manner to "be at first cram'd: When he will feed himself give him *Woodlarks* meat, or almost "any other. Before his going away he is apt to grow fat like the *Nightingale*, but will "eat though never so fat. He is a hardy bird, and long-lived, if preserved with care, "not subject to colds or cramps.

§. V.

The Titlark that sings like a Grashopper, Locustella, *D. Johnson.*

IT is lesser than the *Regulus non cristatus*, hath a pretty long, streight Bill, yet having a little declivity above, the upper Chap black, the nether of a horn colour. The upper side of the body is of a dusky yellow, besprinkled with blackish spots; the underside of a * pale yellow. The Tail is of the longest, of a brown or dusky colour, when spread ending in a circular circumference. On the lower Belly, the Thighs, and under the Tail it hath brown spots tending downwards. It hath long, slender dusky-coloured Legs, crooked Claws, and a very long Spur or heel. It feeds upon flies: It hath a note like a *Grashopper*, but louder and shriller. When it sings it commonly sits upon a bush, with its mouth open, and streight up, and its Wings dishevel'd.

* Or yellowish white, or white dashed with yellow.

§. VI.

§. VI.

The Calandra, *which perchance is no other than the Bunting.*

THis bird *Olina* deſcribes in this manner. It is a kind of *Lark* ſomething bigger than the common, otherwiſe for ſhape of body not much unlike it: In reſpect of bigneſs comparable to a *Thruſh*. Its head is greater than a *Thruſhes*; its Bill ſhorter and thicker: Its Feet as in other *Larks*. The colour of its under or fore part is a light cinereous, with certain black ſpots on the Breaſt, after the manner of a *Thruſh*. Of its upper or hind-part, *viz.* the Back, Wings, and Tail, *&c.* like that of * *Umber*. About two inches below the Bill a circle of black feathers encompaſſes the Neck, in faſhion of a Collar or Necklace.

* A certain earth which Painters uſe of a dusky colour.

This bird ſeems to be the ſame with our *Bunting* hereafter to be deſcribed. The figure of the Bill in *Olina*'s Cut doth not agree to the *Bunting*, indeed anſwers not to his own deſcription; it being drawn as ſlender and long as a *Thruſhes*, whereas he deſcribes it thicker and ſhorter. *Bellonius* his deſcription of the *Calandra* agrees well enough to the *Bunting*; although he alſo deſcribes the *Bunting* elſewhere, under the title of *Cenchramus*. Howbeit, that we may leave the Reader to the liberty of his judgment concerning theſe matters, we ſhall ſubjoyn *Bellonius* his deſcription of *Calandra*. *Calandra* (ſaith he) is a ſort of *Lark*; which who ſo deſires to know, let him fancy a creſted *Lark* approaching to the bigneſs of a *Starling*. Wherefore he that ſhall call it a great *Lark*, may well ſeem not unfitly to denominate it. For both its voice, though higher, is altogether like the voice of a *Lark*, and alſo the colour of its feathers the ſame, its Head the ſame, its Wings the ſame, its Tail the ſame, and likewiſe its conditions the ſame: Its Legs, Feet, and Toes altogether alike, and in theſe the Spur or back-claw long, as in *Larks*. The Neck ſlender where it is joyned to the Head, as we obſerved alſo in the *Peacock*, and which is likewiſe common to *Quails*. But becauſe it differs not from a common *Lark* ſave in bigneſs, and the creſted *Lark*, as we ſaid, is bigger than the common, and hath a tuft on his Head, which both the common *Lark* and the *Calandra* want; I can eaſily allow this ſort of bird to be called a *Lark*, and to be comprehended under the *Genus* of *Larks*. The *Calandra* exceeds the reſt of this kind in bigneſs, and therefore ſtands in need of a thicker Bill, that it might break the harder ſorts of grains upon which it feeds, though thoſe that are kept ſhut up in Cages are wont to be fed with Oats and crums of white bread. Thus far *Bellonius*.

§. VII.

The creſted Lark, called by the Germans, Kommanick, *ſeen and deſcribed at* Vienna *in* Auſtria. Alauda criſtata, Galerita.

IT is bigger than the common *Lark*, hath a greater and longer Bill, almoſt an inch long, meaſuring from the point to the corner of the mouth: The upper Chap dusky, the lower whitiſh. The Tongue is broad, ſomewhat cloven; the *Irides* of the Eyes of a cinereous hazel colour. The Creſt upon the crown of the Head conſiſts of ſeven or eight feathers [I counted ten or twelve.] Theſe feathers are ſituate * tranſverſly, and may be erected or lowred, ſpread or contracted at pleaſure, like the Tail. Theſe feathers are blacker than the reſt, and almoſt half an inch long. The Back is more cinereous, and leſs ſpotted than in the common *Lark*: The Rump almoſt wholly deſtitute of ſpots.

* Acroſs the head.

The prime feathers of the Wings are in number eighteen, beſides the outmoſt very ſhort and ſmall one. The outer Vane of the firſt Pinion feather is of a dirty white, inclining to red or yellow: The reſt are not ſo black as in the common *Lark*, and have ſome mixture of a pale red, even in their lower part. The Breaſt and Belly are white, with a daſh of yellow: The Throat ſpotted, as in the common *Lark*: The Tail is 2 $\frac{1}{8}$ inches long, compoſed of twelve feathers; the two outmoſt whereof on each ſide have their exteriour borders white, with a daſh of red, being elſe black; the third and fourth are wholly black; the fifth and ſixth of the ſame colour with the body. The Gall from green inclines to a dark blue. [I ſuppoſe this is accidental, and that the colour of the Gall varies in divers birds.] The blind Guts are very ſhort.

This

This differs from the common *Lark*, 1. In bigneſs: 2. In the Creſt: 3. In the colour of the Back, which is leſs ſpotted, and not ſo beautiful: 4. In the meaſure of the Tail, which in this Bird is ſhorter: 5. In that it ſoars not ſo much in the air, and when it mounts up ſtays not ſo long there: 6. That it flies not in flocks, as they do. Laſtly, (as *Aldrovandus* obſerves) it is frequently ſeen about the banks of Lakes and Rivers.

Dioſcorides preſcribes this bird to be eaten roaſted, *Galen* in ſome places of his works roaſted, in ſome places boiled, to aſſwage Colic pains. *Marcellus Virgilius* prefers the powder of it, put in an earthen pot, and dried or burnt in an Oven, taken in water to the quantity of two or three ſpoonfuls, before all other medicines for the Colic.

§. VIII.

The leſſer creſted Lark.

THis (as * *Aldrovandus* deſcribes it) is like the greater creſted *Larks*, but much leſs, and hath a conſiderable long tuft on its Head for the ſmalneſs of its body: Red Feet. The colour of its whole body ſeems to incline more to brown than that of the greater kind. I have obſerved them running in flocks abroad in the fields. * *Lib.* 18. *cap.* 14.

This Bird Mr. *Johnſon* of *Brigual* hath obſerved in the North of *England*.

§. IX.

The Giarola of * Aldrovandus, *having a long heel.*

* *Ornithol.* Book 17. chap. 39.

IT was of the bigneſs of a *Lark*. Its length from the tip of its Bill to the points of its Claws was two Palms: Its Bill brittle, red, withinſide and about the corners of the Mouth yellow: It gapes wide. The colour of its Crown, Neck, Back, and Wings is various; ſo that therein it exactly reſembles a *Quail*, and is alſo very like to a *Woodcock*. For all the feathers are of a dusky Cheſnut-colour, only their edges are encompaſſed with a more dilute or whitiſh, or moderately reddiſh colour. The bottom of the Head, or beginning of the Neck is encircled with a border of whitiſh feathers, as it were a Wreath or Crown. The Tongue is cloven, the Belly white, the roots of the feathers cinereous. The Tail ſo ſhort that ſcarce any thing of it appears, yet is it forked and particoloured; for the laſt or outmoſt feather on each ſide is all over white, the laſt ſave one partly white, partly cheſnut. The whole Tail is ſcarce an inch long, and narrow, being made up of very narrow feathers. Its Legs and Feet are ſufficiently large, and of a fleſh colour or reddiſh white. In the Feet this is worthy the obſervation, that the back-toe is very long, and hath a Claw of equal length, ſo that both together make up an inch. This Claw is not, as in other birds for the moſt part, crooked from its riſe, but firſt ſtreight for a good way, and toward the tip moderately hooked. The Claws alſo are whitiſh.

§. X.

The Bird called Spipoletta *at Florence*, Tordino *at Venice: Perchance the* * Stopparola, *or* † Griſola, *or* Spipola ſecunda *of* Aldrovand.

* *Tom.* 2. *p.* 732. † *Pa.* 738, 731.

IT is leſs than a *Lark*, about the bigneſs of a *Beccafigo*: From Bill point to Tail end 7 ⅛ inches long: Between the tips of the Wings extended eleven three quarters broad. Its Bill is ſmall, ſlender, about half an inch long, ſtreight, ſharp, and cole-black: Its Spur or back-claw very long, like a *Larks*.

Its colour on the top of the Head, Neck, Shoulders, and Back cinereous, with a daſh of green. [Mr. *Willughby* makes the Back to be of an obſcure or dusky yellow, the Head more cinereous.] The Breaſt and Belly are white: The Throat ſpotted. The Belly of the Hen-bird is yellowiſh. [The Throat, Breaſt, and Belly in ſome are white, in others of a lovely yellow: But in all generally the Breaſt is darker than the Throat or Belly, and ſpotted.] It hath in each Wing eighteen prime feathers, (I found not in this kind that ſmall, ſhort, outmoſt feather, which we have obſerved in the Wings of many ſmall birds,) of a dark or dusky colour; excepting the outer

edges, which are either whitiſh, or yellowiſh. The feathers alſo of the ſecond row are of the ſame colour with thoſe of the firſt. The Tail is about three inches long, and conſiſts of ten feathers, of which the two outmoſt on each ſide have their outward Vanes and tops, in the whole, above their halves milk-white; all the reſt are dark-coloured, and almoſt black, eſpecially in the Males, excepting the two middlemoſt, which round the edges are either yellowiſh or white. [Mr. *Willughby* deſcribes the Tail a little otherwiſe, and perchance more exactly, thus: The Tail is black, but the upper half of the outmoſt feather on each ſide, and the tip of the next are white; the two middlemoſt from dusky incline to an aſh-colour.]

This bird is ſufficiently diſtinguiſhed by the length of its heel from other ſorts of birds, by the black colour of its Wings and Tail, Bill and Feet from other *Larks*.

Concerning its manners, place, neſt, breeding, *&c.* we have nothing further to add. We ſaw it at *Venice* and *Florence* in the hands of Country-men and Fowlers among other ſmall birds to be ſold in the Markets. At *Florence* they called it *Spipoletta*; whence, induced by the agreement of names, we gueſs it to be either the firſt or ſecond *Spipola* of *Aldrovandus*. But yet ſeeing in the deſcriptions of theſe birds there is no mention made of the length of the heel, (which it is not likely ſo curious a ſpectatour as *Aldrovand* ſhould either overſee, or through neglect and forgetfulneſs omit) notwithſtanding the convenience of names theſe may perchance be diſtinct Species. And therefore that we may not give the Reader juſt occaſion to to complain, that we have raſhly omitted any thing in our *Ornithology*, we will annex to this Chapter *Aldrovandus* his deſcriptions of *Spipolæ*, *Stopparolæ*, and other ſmall birds, to which we judge this to be the ſame, or very like.

* *Ornithol.* lib. 17. cap. 25.

The firſt Spipola *of* * Aldrovandus.

The firſt *Spipola*, which is greater than the reſt in this kind, hath an aſh-coloured Head: Under the Bill a white ſpot in place of a beard. Its Breaſt is red: Its Belly particoloured of red and white: Its Tail black above, white underneath: Its Back aſh-coloured. Its Wings particoloured of white, black and red: its Legs and Feet yellow; its Claws black: Its Bill long, ſlender, and dusky coloured. This bird, if it be exactly deſcribed, is to us as yet unknown.

* *Ibid.*

The other Spipola *of* * Aldrovandus.

This inclines more to an aſh-colour than the precedent: But differs from it in that it hath not a red Breſt, but marked with black ſpots drawn downwards. It is alſo more cinereous above than beneath: Moreover, the Belly is almoſt white. Behind the Eyes is a great ſpot approaching after a ſort to a ferrugineous colour. The maſter feathers of the Wings, and thoſe which cover them, are black, their ſides and ends being cinereous. The Legs and Feet are dusky: The Tail aſh-coloured.

The third Spipola *of* Aldrovandus, *deſcribed in the ſame Chapter.*

This ſome call *Boarina*. It is a ſmall bird, almoſt all over of a pale or whitiſh yellow, but deeper in the Wings than elſewhere. The Bill and Feet are dusky.

The Stopparola *of* Aldrovand, *lib.* 17. *cap.* 27.

The Fowlers (ſaith he) of our City call this bird *Stopparola*, a name I know not what it ſignifies, nor whence it is derived, unleſs perchance it be from Stubble, which our * Country men call *Stoppia*. It is, if I be not miſtaken, of the *Genus* of the † *Muſcicapæ*, hath the Breaſt and Belly for the moſt part white; the Head (which on the Crown is ſpeckled with white ſpots) Neck, Back, and Tail brown; the quill-feathers of the Wings black, as are alſo the coverts, but yellowiſh on the ſides: The Legs and Feet ſlender, and black: The Bill indifferently long, ſharp-pointed, and black.

* *Ruſtici*, that is, Peſants.

† Fly-catchers

A Bird like to Stopparola & Magnanina, Aldrov. *in the ſame place.*

It is of the bigneſs of a *Wagtail*; hath a long, ſtreight, ſharp Bill, yet above having a little declivity; black above, and of a horn colour underneath: The Neck, Breaſt, and Belly pale: The Eyes ſmall and lively, having a black Pupil; and

and a white circle, and a dusky spot hardly conspicuous about them; The Feet leaden-coloured.

The Grisola *of* * Aldrovandus.

* Book 17. Chap. 28.

There is a certain other small bird caught in our fields, which the Fowlers call *Grisola*, perchance from its grey or hoary colour, although it be not grey, but of a dusky ash-colour: Or perchance because it cries much, keeping alone; for we sometimes use the word *gridare*, to signifie lamenting. It feeds upon flies, and other such like Insects, as I gather from the figure and construction of its Bill; for it is slender, streight, and long. On the Neck and Breast it is distinguished with oblong, brown spots, tending downwards. The whole Belly is white. The Head, upper side of the Neck, Back, and Tail are dusky, as are also the Wings, the feathers whereof have their sides and ends of a pale ash-colour. The Legs and Feet are also dusky or blackish.

The Glareana *or* Grien Vogelin *of Gesner.*

Hither also for its spotted Breast we will refer the *Glareana* or *Grien Vogelin* of *Gesner:* which because the Author described from the inspection of a Picture sent him from *Strasburgh*, we suspect not to differ from the above described, although in some particulars it seems to vary. We refer the Reader, that desires more concerning it, to *Gesner* or *Aldrovandus.*

Chap. II.

Of the Swallow in general.

The characteristic notes of *Swallows* are a great Head, a short Neck, a small, short Bill, a wide mouth, for the more easie catching of Flies, and other Insects, as they flie to and fro: Very long Wings; a swift and almost continual flight; a long and forked Tail for the more ready and speedy turning their body, and directing their flight: White Eggs, speckled with ferrugineous spots, as *Aldrovandus* truly observed. This bird is the Springs Herald, being not seen throughout all *Europe* in Winter-time: Whence that Greek Proverb, common to almost all Languages, Μία χελιδὼν ἔαρ ὃ ποιεῖ; *One Swallow makes not a Spring.*

We have observed four sorts of *Swallows* in *England*, and not more elsewhere. Those are, 1. The common or *House-Swallow:* 2. The *Martin*, or *Martinet*, or *Martlet:* 3. The *Sand-Martin* or *Shore-bird:* 4. The *black Martin* or *Swift.* Of this last we have seen a sort painted with the whole Belly white. And *Julius Scaliger* affirms, that he hath seen one of this kind as big as a *Buzzard:* No way differing in shape from the common one, save in the Legs and Talons, and hookedness of the Beak, all fitted for prey.

As for the Physical vertues and faculties of *Swallows* and their parts, *Schroder* hath thus briefly summed them up.

1. Swallows *entire* are a specific remedy for the Falling sickness, dimness of sight, blear eyes, (*their ashes mingled with honey and so applied*) they cure also the Squinancy, and inflammation of the *Uvula, (being eaten, or their ashes taken inwardly.)*

* Pin of the Mouth.

2. A Swallows *heart* is also said to be good for the Falling sickness, and to strengthen the memory. Some eat it against the Quartan Ague.

3. Some will have the *blood* to be a specific for the Eyes: And they prefer that which is drawn from under the left Wing.

4. There is a *Stone* found sometimes (though seldom) in the stomach of some of the young Swallows, called *Chelidonius*, of the bigness of a Lentile or Pease. This they will have to help the Falling sickness in Children (*bound to the arm, or hung about the neck.*)

Note. They report this stone to be found especially in the increase of the Moon, and in the first hatch'd yong one. Others take it out in *August* at the Full of the Moon.

5. The *Neſt*, outwardly applied gives relief in the Squinancy: Heals the redneſs of the Eyes, and is good for the biting of an Adder, or Viper.

6. The *Dung* heats very much, diſcuſſes, and is acrimonious. Its chief uſe is againſt the bitings of a mad dog, taken outwardly and inwardly; in Colic and Nephritic pains taken inwardly, put up it provokes excretion. *Schrod.*

An approved Medicine for the Falling ſickneſs.

Take one hundred Swallows, [I ſuppoſe here is ſome miſtake, and that one quarter of this number may ſuffice] one ounce of *Caſtoreum*, one ounce of *Peiony roots*, ſo much *White-Wine* as ſhall ſuffice. Diſtill all together, and give the Patient to drink three drachms faſting every Morning. This will leſſen every fit, and perfectly cure them. Purge often, as the ſtrength of the Patient will bear, with *Stibium.*

Chap. III.

Of Swallows in particular.

§. I.

The common or Houſe-Swallow. Hirundo domeſtica.

The Female weighed ſcarce an ounce: From the Bill to the end of the Tail being ſeven inches long, and meaſuring from tip to tip of the Wings extended, twelve and an half broad. Its Bill was ſhort, black, flat, and depreſſed, very broad at the Head, but ſharp-pointed; black alſo on the inſide: But the Tongue and roof of the mouth yellow. The aperture of the mouth gaping very wide, for the conveniency of catching Flies and Gnats as ſhe flies. The Tongue ſhort, broad, and cloven: The Eyes great, and furniſhed with nictating membranes: The *Irides* hazel-coloured. The Feet ſhort and black; the outmoſt toe growing to the middlemoſt at bottom.

The Head, Neck, Back, and Rump are of a very lovely ſhining, but dark purpliſh blue colour. As well above as underneath the Bill, that is to ſay, in the Forehead and under the chin, is a deep ſanguine ſpot: But that underneath is much the bigger. The Throat is of the ſame colour with the Neck. The Breaſt and belly white, with a daſh of red; as are alſo the interiour covert-feathers of the Wings. The Tail is forked conſiſting of twelve feathers; the outmoſt of which are an inch longer than the next, and end in ſharp points: Of the reſt the interiour are alſo ſhorter in order than the exteriour, but the difference much leſs. All theſe feathers of the Tail, except the two middlemoſt, are black, and each adorned with a white ſpot: Which ſpots croſs the Tail in a ſtreight line. [The two middlemoſt want the white ſpot.] The Wings have eighteen quill-feathers, alike black: But all the covert feathers are of a deep ſhining blue.

In the Stomach of an old bird we found Beetles; in the ſtomachs of the young many ſmall, pellucid, unequal ſtones, tinctured with a fair Claret colour; not far from the Eggs ſmall worms ſpirally rolled up, of three inches length. Theſe birds build in Chimneys. About the end of *September* we ſaw great numbers of them to be ſold in the Market at *Valentia* in *Spain*, when we travelled through that Country, *Anno* 1664.

What becomes of *Swallows* in Winter time, whether they fly into other Countries, or lie torpid in hollow trees, and the like places, neither are natural Hiſtorians agreed, nor indeed can we certainly determine. To us it ſeems more probable that they fly away into hot Countries, *viz. Egypt*, *Æthiopia*, &c. then that either they lurk in hollow trees, or holes of Rocks and ancient buildings, or lie in water under the Ice in Northern Countries, as *Olaus Magnus* reports. For as *Herodotus* witneſſeth, they abide all the year in *Egypt*, underſtand it of thoſe that are bred there (ſaith *Aldrovandus*) for thoſe that are bred with us only fly thither to winter. I am aſſured of my own knowledge (ſaith *Peter Martyr*) that *Swallows*, *Kites*, and other Fowl fly over Sea out of *Europe* to *Alexandria* to winter.

Swallows

Swallows sometimes vary in colour, as do also many other birds; I have (saith *Aldrovandus*) often seen *House Swallows* all over white. If any one desires to have white *Swallows*, let him anoint their Eggs while they sit, with oyl-olive, *Aldrov.*

§. II.

The Martin, or Martinet, or Martlet. Hirundo agrestis sive rustica Plinii.

THis being measured from the tip of the Bill to the end of the Tail was six inches long: The Wings being spread ten inches and an half broad. Its Head flat; Its Bill also very much depressed and flat, as in the *House-Swallow*; at its insertion into the Head $\frac{1}{8}$ of an inch broad, but sharp at the point: From the tip to the angles of the Mouth but half an inch long; the upper Chap somewhat longer than the nether. The Mouth is yellow within-side: The Tongue cloven. The Circles encompassing the Pupils of the Eyes of a havel-colour. The Feet small, and Legs short. The soal of the foot bare; in which appear the bottoms of the exteriour Toes joyned by a membrane. The Claws are white: The Feet to the very Claws covered with a white Down: By which note it is easily distinguishable from all its fellows of the *Swallow*-kind.

Its Head, Neck, Back, Tail and Wings are of the same colour with the *House-Swallows*, but sadder, and not so glossie: Its Rump, Breast, and Belly milk-white. Under the Chin the white is somewhat more sullen or obscure. Each Wing hath eighteen master-feathers: From the tenth the six or seven following have their tips broad and indented. The tips of the * interiour quil-feathers are white. The Tail is less forked than in the *House-Swallow*. The feathers from the middle on each side are longer in order, the exteriour than the interiour, almost by an equal excess; otherwise than in the *House-Swallow*, the outmost feathers of whole Tail (as we said before) exceed the next three times as much as they do the following, *&c.* The length of the outmost feathers is two inches and an half, of the middlemost one and three quarters.

* That is, those next the body.

In the stomachs of the Young of this kind we found no stones, but many Flies and Beetles. This bird builds a round Nest like the *House-Swallow*, and also of like matter, yet not in Chimneys, but in Windows, under Eves of Houses, *&c.* It differs moreover, in that the *House-Swallows* Nest is like those of other birds, semicircular, and all open above; but its Nest is covered above, a round hole only being left open in the side, by which the old one goes in and out.

§. III.

The Sand-Martin, or Shore-bird. Hirundo riparia, *Aldrov.*

THis bird is the least that we know of the *Swallow-kind*; being from the tip of the Bill to the end of the Tail no more than five inches and a quarter long. Its Bill is small, sharp, flat, black, as in the rest of this kind, from the point to the angles of the Mouth half an inch long: Its Tongue cloven: Its Eyes great; its Feet dusky. At the rise of the back-toe a few small feathers grow; else the Legs are bare as far as the knees.

Its Head, Neck, and Back are of a dark dun, or Mouse colour: Its Chin, Breast, and Belly white. At the bottom of the Throat a Ring of the same Mouse-dun encompasses the Neck. The number of feathers in Wings and Tail is the same as in other *Swallows*. But the quil-feathers of the Wings are blacker than the feathers on the back; from the tenth to the last all of equal length; the six next to the tenth have their tips indented. The middle feathers of the Tail are an inch and three quarters long, the outmost an inch and half.

It builds in the holes of River-banks, lays five or six Eggs, makes its Nest of straws, bents, *&c.* within of feathers, on which it lays its Eggs.

It differs from the *Common Martin* in having no white upon the Rump, nor its feet feathered, as that hath.

Of this kind great numbers are brought to the Markets at *Valentia* in *Spain* to be sold for the use of the Kitchin; where the Fowlers and Country people call them * *Papilion di Montagna.* They are frequent also in *Holland*, and no less in *England.*

* That is Mountain Butterflies.

§. IV.

§. IV.

The black Martin or Swift. Hirundo apus.

THis is the biggeſt of all *Swallows* we have hitherto ſeen. It hath a great Head, a huge wide mouth; but a very ſmall, black Bill, (wherein it agrees with the * Churn-Owl) towards the Noſthrils broad and depreſſed. Its Tongue is broad, and ſomewhat cloven: Its Noſthrils long, placed obliquely, obtuſe toward the Head, acute toward the point of the Bill: Its Eyes great, and their *Irides* of a hazel colour.

* *Caprimulgus.*

It hath almoſt no variety or difference of colour in the whole body: For as well the upper as the lower ſide, and alſo the Wings and Tail are black, with an obſcure tincture of green, or red: Only under the Chin is a notable ſpot of white or aſh-colour.

It hath in each Wing eighteen quil-feathers, all ending in ſharp points, but eſpecially the exteriour ones. The Tail is about an hand-breadth long, conſiſting of but ten feathers, from the middle to the outmoſt in order one longer than another, ending all in ſharp points.

Its Legs are very ſhort, but thick: Its Feet very ſmall. All its Toes ſtand forwards; for the leaſt, which in others is wont to ſtand backward, is in this placed the ſame way with the reſt. The leaſt Toe hath, as in other birds, one bone: The other three, contrary to the manner of all other that we know beſides it, have all an equal number of bones or joynts, *viz.* only two, the one very ſhort, the other longer. The Toes alſo are all divided from the very riſe.

The Gall-bladder is little. The Stomach not very fleſhy, out of which diſſected we took Beetles and other Inſects.

They ſay, that by reaſon of the length of its Wings, and ſhortneſs of its Legs, if it happens to alight or fall upon the ground, it cannot raiſe it ſelf up again, but may eaſily be caught. Wherefore it doth either always fly, or ſit upon the tops of Churches, Towers, or other ancient buildings.

Its weight was three quarters of an ounce: Its length from the tip of the Bill to the Claws five inches, to the end of the Tail ſeven and a quarter. The diſtance between the tips of the wings extended ſixteen inches and an half.

Of this kind we have ſeen the Picture of one having its whole nether part, Throat, Breaſt, and Belly, white: And, as we ſaid before, *Scaliger* mentions one of the bigneſs of a *Buzzard.*

§. V.

* *Aldrovandus his Sea-Swallow.*

Out of *Aldrovandus.*

THis bird, *in my judgment belongs not to this Family, but ought to be ranked with the leſſer* Lari *or* Sea-Gulls.

It is (ſaith *Aldrovandus*) much bigger than a *Swallow*, and hath longer legs. Its whole Belly up to the Breaſt is white; its Head, Wings, and Back duskiſh. Its Wings and Tail, as in *Swallows*, are very long, and of a blackiſh colour, but brown within-ſide. Its Tail is forked. Its Bill ſtrong, and black, as in a *Gull.* Its * Mouth wide, and of a ſcarlet colour within. From the Bill through the Eyes, almoſt to the Breaſt, is extended a notable black line, which near the Breaſt makes as it were a Collar. The Feet are as black as Jet, and (as I ſaid before) leſs than a *Swallows.* For its likeneſs it is called by Fowlers, The *Sea Swallow.*

* *Rictus*, which ſignifies properly the gape of the mouth.

§. VI.

* *The* American *Swallow, called by the Braſilians,* Tapera, *by the Portugues,* Andorinha. *Marggrav.*

IT is like our Country *Swallows*, of the ſame bigneſs, and flying about after the ſame manner. It hath a ſhort, broad, black Bill: A wide Mouth, which it can open beyond the region of the Eyes, like the greater *Ibijau*; elegant, black Eyes: Long Wings, reaching as far as the end of the Tail; which is of a good breadth. Its Legs and Feet like thoſe of our Country *Swallows.* All the upper part of the Head,

Head, the Neck, Back, Wings, and Tail feathers are of a brown colour mingled with grey. The Belly is white, as are also the feathers under the Tail: The Legs and Feet dusky.

This bird perchance may not differ specifically from our *Europæan black Martin* or *Swift*: For that, as we before observed, the *Europæan Swift* varies sometimes in colour, being found with a white belly.

§. VII.

* *The Chinese Swallow of* Bontius, *whose Nest is edible.*

IN the Sea-coast (saith he) of the Kingdom of *China*, a sort of small particoloured birds, of the shape of *Swallows*, at a certain season of the year, *viz.* their breeding time, come out of the midland Country to the Rocks; and from the foam or froth of the Sea-water dashing and breaking against the bottom of the Rocks gather a certain clammy, glutinous matter, perchance the Sperm of *Whales*, or other fishes, of which they build their Nests, wherein they lay their Eggs, and hatch their Young. These Nests the *Chinese* pluck from the Rocks, and bring them in great numbers into the *East Indies* to sell; which are esteemed by gluttons great delicacies, who dissolving them in Chicken or Mutton broth, are very fond of them, preferring them far before Oysters, Mushromes, or other dainty and licorish morsels which most gratifie the Palate.

We have seen of this sort of Nests in the Cabinets of *Athanasius Kircher* the Jesuite, and other *Virtuosi*. They are (as * *Olaus Wormius* reports) of a Hemispherical figure, of the bigness of a Goose-Egg, of a substance resembling Ising-glass. Concerning their faculties or vertues (saith *John de Laet* in his Epistle to *Wormius*) reports vary, some attributing to them something Venereal, others not. But he writes, that he had been informed by those who commanded in chief in the *East Indies*, that the birds that build them were found upon that part of the Sea-coast that is commonly called *Coromandel*, and chiefly about *Patane*.

* *Musei.* lib. 3. cap. 21.

CHAP. IV.

Slender-bill'd birds that have their Tails all of one colour.

The Hedge-Sparrow, Curruca *Eliotæ, An* Magnanina *Aldrov?*

THis is almost as big as a *Titlark* or *Robin-red-breast*. Its Bill is slender, * pretty long, and black; the Tongue cloven, horny, and black at the tip: The Nosthrils of the figure of a Kidney-bean: The *Irides* of the Eyes hazel-coloured: The Ears great and wide.

* From the tip to the corners of the mouth above half an inch.

The upper side of the body is particoloured of black and dirty-red, the middle parts of each feather about the shaft being black, the outsides or edges red. These colours are so dull and sullen, that the bird notwithstanding, look'd on at a distance, appears but of a brown or dirty colour. The Head and Back shew something of cinereous, the middle spots being darker. The Rump is greenish, and void of spots. The prime feathers of the Wings dusky, with reddish edges. The interiour of the second row of Wing-feathers have whitish tips: The lesser covert-feathers of the Wings are of the same colour with those on the body. This hath that extreme short feather in each Wing, which some birds want. The Tail is about two inches long, made up of twelve feathers, all dusky, without any variety of colours. The nether part of the body is cinereous, yet the lower belly whitish, but in some birds darker, and of a lead-colour. The Legs and Feet are of a yellowish flesh-colour; the Claws dusky; the hind-claw greater and longer than any of the rest. The outmost Toe, as in other small birds, at bottom grows to the middlemost.

The Cock had large Testicles: The blind Guts seemed to us in this to be more round and tumid than in other small birds. The stomach was not very fleshy. It builds in hedges, and lays commonly five Eggs; is a foolish bird, and easily taken. Its Eggs are of a fine pale blue or Sea-green colour.

A late Engliſh Writer ſaith, that they are a very pleaſant Song-bird, ſinging early in the Spring, and having great variety of notes: Old or young become tame very ſwiftly, and will ſing in a ſhort ſpace after they are taken, if you take them in the latter end of *January*, or beginning of *February*.

Its weight was three quarters of an Ounce: Its meaſures were from the Bill to the Claws ſix inches; to the Tail end ſeven; from Tip to tip of the Wings ſpread eight and an half. Perchance this may be the Bird which *Geſner* makes his firſt *Curruca*, whoſe figure you have in *Aldrovands* Ornithology, *lib.*17. *cap.* 34.

In the Neſt of this bird the *Cuckow* is ſaid to lay her Egg, which the fooliſh bird ſits upon, hatches, and brings up the young one till it be fledg'd, and can ſhift for it ſelf: Whence the word *Curruca* ſignifies as much in *Latine* as *Cuckold* with us in *Engliſh*, *i. e.* one that brings up another mans Child for his own. I ſuppoſe our word *Cuckold* came from *Cuckow*, but a man abuſed in that manner is very improperly ſo called, he that abuſes him being indeed the *Cuckow*, that lays an Egg in his Neſt. Whether or no this Bird doth hatch and bring up the young *Cuckow* I cannot ſay of my own experience, but I am ſure this is not the only *Cuckows*-nurſe, for I have known the *Water-wagtail*, and other birds perform that office.

The *Magnanina* of *Aldrov.*

Aldrovandus deſcribes his *Magnanina* in theſe words. It is a bird of the bigneſs of a *Sparrow*, having a ſlender, ſharp, black Bill: On the nether ſide down to the Belly of a pale aſh-colour, the belly being white. Behind the Eyes it hath a notable ſpot of almoſt a Cheſnut colour, of which colour is alſo the crown of the head. The greater Wing-feathers are black; the Tail of a ſpadiceous, but paler than the Back. The Legs and Feet yellow, the Claws black. Some of our Fowlers call it *Magnanina*, as much to ſay, as a Smith or Carpenter-bird, perchance becauſe it makes a loud knocking or ſnapping with its Bill as it catches flies: Other call it, *Paſſere matto*, that is a fooliſh Sparrow, perhaps from its colour, which approaches to ſpadiceous, or rather becauſe it eaſily yields it ſelf to be taken.

Chap. V.

The Beccafigo *or Fig-eater, perchance the fourth, or ſeventh* Ficedula *of* Aldrovandus, *to which are ſubjoyned the deſcriptions of other ſmall Birds akin to this out of* Aldrovand.

This is a very ſmall bird, ſcarce ſo big as the common *Linnet*, ſhort bodied. The colour of its Head, Neck, Back, Wings, and Tail from aſh-colour inclines to green, in ſome dusky, with a Tincture of green. It hath the ſame number of Wing and Tail-feathers with all other ſmall birds. But the quills of the Wing are of a Mouſe-dun, with black ſhafts, and green edges. The leſſer rows of feathers that cover the underſide of the Wings are yellow. The Tail is about two inches long, not forked, and all its feathers of a dusky colour.

The Belly of a white or ſilver colour: The Breaſt ſomething darker, with a tincture of yellow.

The Bill is ſhort, the upper Mandible black, the lower bluiſh: The Mouth within-ſide of a red or fleſh-colour: The Legs ſhort, the Feet bluiſh, and in ſome of a lead colour.

This bird is not remarkable for any variety of colours, ſo that it is very hard ſo to deſcribe it, as by certain and characteriſtic notes to diſtinguiſh it from all others.

In its ſtomach diſſected we found grape-ſtones, and other ſeeds.

Mr. *Jeſſop* ſhot this bird in *Yorkſhire*, and ſent it us by the name of *Pettychaps*.

The ſeventh *Ficedula* or *Scatarello* of *Aldrov.*

The ſeventh *Ficedula* of *Aldrovand*, which he ſaith his Country-men the *Bologneſe* call *Scatarello*, but the *Genoeſe Beccafigo*, is almoſt all over of a dusky aſh-colour, eſpecially on the back and upper-ſide, for the Breaſt is yellow: The Feet are black. Saving in the colour of the Feet it agrees with the Bird by us deſcribed in this Chapter.

The ſecond *Muſcicapa* of *Aldrov.* or *Borin* of the *Genoeſe.*

Neither is the ſecond *Muſcicapa* of *Aldrovand*, or *Chinin* of the *Bologneſe*, called by the *Genoeſe*, *Borin*, much unlike to this. It is a little bigger than a Wren; its Bill ſlender, ſharp, and very fit to ſtrike flies. The upper part of its Head, as alſo its Neck and Back are of a pale aſh-colour: its Head beneath, its Throat, Breaſt, and Belly are of a white, tending to yellow; but the Breaſt and Belly more dilute. The

Wings

Wings above dun, underneath also of the same colour, but paler. The Rump white. The Tail (which consists of twelve feathers) is three inches long, and of the same colour with the Wings. The Legs and Feet * *Spadiceous:* The Claws long and slender.

* Of the colour of the Palm tree branch.

Moreover, the *Salicaria* of *Gesner* is either the same with this, or certainly near akin to it. It is, saith he, a very small bird, of colour partly dusky, as on the upper side; partly yellowish, as on the nether; and partly whitish, as on the sides, and near the Neck, having reddish Legs. It feeds upon Flies, Spiders, and other Insects that it finds among Willows, which that it may enjoy alone, it drives away other small Birds. It hath a slender, streight Bill.

The *Salicaria* or Willow-bird of *Gesner*.

Aldrovandus describes another bird by the name of his first *Muscicapa*, or Flie-catcher, which he saith from following and frequenting Kine, the *Bolognese* call *Boarola*, or *Boarina*. It is a long-bodied bird, and hath a pretty long Bill, of a dusky reddish colour. The Head and whole Back are of a colour mixt of * plumbeous, cinereous, and yellowish. The Breast and all the belly white; but the Breast spotted with black. The Wings are particoloured, of black, yellowish, and white: The Tail long, black, and white on the sides: The Legs and Feet black.

The *Boarina* of *Aldrov.*

* A lead-colour.

Chap. VI.

A small bird without name like to the Stopparola *of* Aldrovand, *perchance the* Moucherolle *of* Bellonius.

FOr bigness and colour it is very like to a *Hen-Sparrow*, but of a longer and slenderer body. The Head, Neck, Back, and generally the whole upper side is of a dark cinereous or Mouse-dun: Yet the Wings and Tail darker than the middle of the Back: And on the top of the Head, to one who heedfully views it, appear certain black spots. All the nether side is white: But the shafts of the feathers in the Breast are black, and the Throat and Sides somewhat red. The Tail is two inches and a quarter long, all dusky, as are also the greater quil-feathers of the Wings, for the edges of the interiour are of a yellowish white. The outmost feather of the Wing is very short and little. [In some birds of this kind the tips of the interiour feathers of the second row, as also of the bastard-wing feathers are of a yellowish white.]

The Bill is streight, black, broad, and depressed, or flat near the Head. The upper Chap rises up in an angle or ridge all along the middle, (whence the Bill seems to be triangular) and is a little longer than the nether, and sharp-pointed. The mouth gapes wide; and is yellow within side. The Tongue cloven with a deep incision, rough on the sides. The Legs short and black: The Feet also small and short. The outer toe below sticks fast to the middle one, as in the rest of this kind.

The Gall is yellow: The Testicles small and black. In the Gizzard we found Bees, Flies, and other Insects. In summer-time it frequents gardens with us in *England*. In the young birds of this kind the Back is spotted with black and white.

This bird differs from the *White-throat*, in that its Tail is all of one colour; from the *Beccafigo* in the colour of its body, being of a dusky cinereous or Mouse-dun, whereas that is paler coloured, and tinctured with green; from both, in magnitude and in the figure of its Bill, which (as we said before) is broad, depressed, and triangular.

We have before in the Chapter of *Larks* presented the Reader with the descriptions of the *Stopparola* and *Stopparolæ similis* of *Aldrovand*. As for the *Moucherolle*, *Bellonius* describes it thus:

It is of the bigness of the * *Curruca*, lives in woods, and feeds chiefly upon flies, whence also it is called * *Moucherolle* (*Mouche* in *French* signifying a fly.) It is so like a *Sparrow*, that unless by its conditions while it is living, and its Bill when dead, it can hardly be distinguished from it. It hath strong legs and feet: The feet also black. The Bill is slender and oblong, like a *Robin-red-breasts:* The Tail also long. In brief it is in all points like to the small *Field-Sparrow* that haunts Oaks, excepting the Bill, and its pleasant note. It lies much in Woods and Thickets, flying and hiding it self there. This description of *Bellonius* seems rather to agree to our *Hedg-Sparrow* than to the bird described in this Chapter.

* Hedge-Sparrow.

* *The Braſilian* Tijeguacu *of* Marrgrave.

For the figure of its Bill alike depreſſed and triangular we have ſubjoyned this bird to the precedent, though otherwiſe not much reſembling it. It is (ſaith *Marggrave*) of the bigneſs of a *Sparrow*, or a little bigger; hath a ſhort, triangular, and ſomewhat broad, black Bill: Its Eyes of a Sapphire colour; its Legs and Feet of a waxen, with duskiſh Claws. Its Toes are diſpoſed after the ordinary manner. The whole bird is as black as a *Raven*: But on the top of the Head it hath a ſhining ſanguine ſpot of the figure of a buckler. The feathers covering the whole back almoſt, and part of each Wing above, from black incline to blue. The Tail is ſhort and black.

Chap. VII.

The Redſtart, Ruticilla, Φοινίκουρος.

THe Breaſt, Rump, and ſides under the Wings are red: The lower Belly white: The Head, Neck, and Back of a lead-colour. The forehead marked with a white ſpot, ſeparated from the Eyes and Bill by a black line, although it ſeems to be produced beyond the Eyes to the hinder part of the Head, and to encompaſs the crown of the head (which is, as we ſaid, of a lead colour.) The Throat and Cheeks under the Eyes black, with a mixture of grey in the ends of the feathers. In the Female the Back is of a dusky aſh-colour: The Throat of a paler cinereous: The Breaſt red; the Belly white.

The quill-feathers in each Wing eighteen, as in other ſmall birds, all dusky: The upper covert-feathers black, the nether red. The Tail is made up of the uſual number of twelve feathers, of which the five outmoſt on each ſide are red, the two middlemoſt dusky, two inches and an half long.

The Bill is black: The Legs alſo are black in the Cock; in the Hen both Bill and feet are paler. The loweſt bone of the outer Toe is joyned to that of the middle Toe. The Tongue is cloven: The mouth within yellow: The *Irides* of the Eyes of a hazel colour. The Eyes are furniſhed with nictating membranes.

It feeds upon Beetles, and other Inſects, and comes to us in Summer-time.

It weighs half an ounce, is five inches long, and nine broad.

This bird, ſaith a late *Engliſh* Writer, is of a very dogged ſullen temper: For if taken old, and ordered as formerly directed in the *Nightingale*, he will be ſometimes ſo dogged as in ten days time never to look toward the meat, and when he feeds himſelf to continue a whole month without ſinging. This is alſo the ſhieſt of all birds, for if ſhe perceive you to mind her when ſhe is building, ſhe will forſake what ſhe hath begun, and if you touch an Egg ſhe never comes to her Neſt more: And if you touch her young ones, ſhe will either ſtarve them, or throw them out of the Neſt and break their necks, as I found by experience more than once. The Young are to be taken at ten days old, and to be fed and ordered as the *Nightingales*. Keep them warm in Winter, and they will ſing as well in the night as the day, and will learn to whiſtle and imitate other birds. Taken young, and brought up, they become gentle and very tame.

Beſides this common Redſtart, *Geſner* and *Aldrovand* deſcribe ſeveral other kinds, as 1. That which *Aldrovandus* makes his third, which *Geſner* deſcribes thus: Its forehead is marked with a white ſpot: The feathers under the Bill are black. The Head and Back are of a cinereous or dusky colour. The Wing-feathers are dusky, moderately inclining to red. The Breaſt, Belly, and Tail are red; but the lower Belly whitiſh. The Tail conſiſts of * eight feathers. For bigneſs this bird is inferiour to the great *Titmouſe* or *Ox-eye*, equal to the *Robin-red-breaſt*. Its Bill is black, ſlender, long and ſtreight.

* Either this place is miſprinted, or *Geſner* ſure miſtaken in the number of feathers: For all the *European* ſmall birds I ever ſaw or heard of have twelve feathers in their Tails.

The fourth of *Aldrovand* is in all points like this, ſave that the white ſpot on the forehead is changed into a long line: The Breaſt alſo ſeems to be more cinereous, and the lower belly not white.

Geſners Rotſchwentzel Aldr. tom 3. p 748.

2. The *Rotſchwentzel* of *Geſner*, ſo called from the redneſs of the Tail, the deſcription whereof he took from a Picture ſent him from *Strasburgh*: Therefore we ſhall add

add no more concerning it, esteeming such Pictures less exact, and not much to be relied upon, who will may see the description in *Gesner*, or *Aldrovand* out of him.

3. The Bird called *Wegfleecklin* about *Strasburgh*, *Gesn.* Its Breast was blue, the part between the Breast and Belly of a pale or yellowish red; which colour also the upper side of the Tail feathers, but not to the end, and those about the Rump, were of. The Bill is short, the Belly cinereous, not white, as the *Strasburgh* Picture represents it; the Legs dusky, not red, as in that Picture; and the feathers under the Bill not blue, but dusky and particoloured. The *German* name is imposed upon it partly from the ways; for it is much conversant about high ways, roads, and fields, and thence (as we guess) picks up worms and seeds that it finds on the ground; partly from the blue spot on its Breast, as I conjecture.

The *Redstart* (saith *Aldrovandus*) abides with us all the Summer, but in the end of the *Autumn* it either flies away, or hides it self, and in the Spring-time returns to us again. It feeds upon the same things the *Robin-red-breast* doth, to wit, flies, crums of bread, Ants Eggs, and if I be not deceived, Spiders too. It builds its Nest in hollow trees.

Chap. VIII.

The Robin-red-breast or Ruddock, Rubecula sive Erithacus, *Aldrov.* Ἐρίθακος, *Christ.*

This bird denominated from its red breast, is so well known in almost all Countries, that it needs no long description. It weighs about half an ounce, being from Bill to Tail half a foot long; and between the tips of the Wings spread about nine inches broad. The Breast is of a red or deep Orange colour: which colour compasses also the Eyes and upper part of the Bill. The Belly is white; the Head, Neck, Back, and Tail of a dirty green or yellow, as in *Thrushes* [rather cinereous, with a tincture of green.] A line of blue divides between the red colour and the cinereous on the Head and Neck. Under the Wings is also seen something of Orange-tawny.

The exteriour borders of the Wings are almost of the same colour with the back: the interiour are something yellow. The Tail is two inches and an half long, and made up of twelve feathers.

The Bill is slender, of a dusky colour, more than half an inch long: The Tongue cloven and jagged: The *Irides* of the Eyes of a hazel colour. The Legs, Feet, and Claws of a dusky or blackish. The outer foretoe joyned to the middlemost at bottom, as in the rest of this kind.

In Winter-time to seek food it enters into houses with much confidence, being a very bold bird, sociable and familiar with man. In the Summer-time (as *Turner* saith) when there is plenty of food in the Woods, and it is not pinched with cold, it withdraws it self with its Brood into the most desert places. It is a solitary bird, and feeds singly, whence the Proverb took its rise, *Unum arbustum non alit duos Erithacos.* Of the manner of building its Nest thus *Turner* from ocular inspection. It makes its Nest among the thickest thorns and shrubs in Spineys, where it finds many Oaken leaves, and when it is built covereth it with leaves, not leaving it open every way, but only one passage to it. On that side also where the entrance is, it builds a long porch of leaves before the aperture, the outmost end whereof when it goes forth to seek meat, it shuts or stops up with leaves. What I now write I observed when I was very young; howbeit I will not deny but it may build also after another manner. If any have observed another manner of building let them declare it, and they will very much gratifie such as are studious of these things, and my self especially. What I have seen I have candidly imparted. The Male (saith *Olina*) may be known and distinguished from the Female, by the colour of his Legs, which are blacker, and by certain hairs or beards which grow on each side his Bill. It feeds upon Worms and other Insects, Ants Eggs, Crums of bread, *&c.* For a Song-bird it is by some esteemed little inferiour to the *Nightingale.*

They build commonly three times a year, in *April*, *May*, and *June*: Seldom have above five young ones, and not under four. You may take them at ten days old; if

you let them lie too long, they will be ſullen. Feed them with ſheeps heart and Egg minced ſmall, in all points like the *Nightingale*; give them but little at once, and pretty often, for if you give them too much, they are apt to throw it up again. Be ſure they lie warm, for they are tender birds. When they begin to be ſtrong, cage them in a Cage, like the *Nightingales*, lined with bays, and having Moſs at the bottom: And give them ſheeps heart and Egg, or the *Nightingales* Paſte, or *Woodlarks* meat. In a Trap-cage with a meal-worm you may take a dozen in a day. The Cock may be known by his Breaſt being of a deeper red, and the red going up further upon the Head. He is ſubject to the Cramp, and dizzineſs. For the firſt give him three or four Meal-worms and Spiders: For the latter ſix or ſeven Earwigs a week.

Chap. IX.

The Nightingale, Luſcinia ſeu Philomela, Ἀηδὼν *Græcis*.

THe *Nightingale*, being the chief of all ſinging birds, is about the bigneſs of a *Goldfinch* or *Redſtard*, long-bodied, of an ounce weight, from Bill-point to Tail-end ſeven inches long, and between the extremities of the Wings extended ten and an half broad. Its colour on the upper part, *viz.* Head, and back is a pale* fulvous, with a certain mixture of green, like that of a *Redwing*. Its Tail is of a deeper fulvous or red, like a *Redſtarts*. From its red colour it took its name *Roſſignuolo* in *Italian*. Its Belly is white. The parts under the Wings, the Breaſt and Throat are of a darker colour, with a tincture of green. In each Wing it hath eighteen quil-feathers, beſides the outmoſt ſmall one, the interiour Webs whereof are livid, the exteriour fulvous. The Tail, as we ſaid, is red, not forked, two inches and and an half long, compounded of twelve feathers. The Bill ſlender, ſtreight, indifferent long, *viz.* meaſuring from the tip to the angles of the mouth, near an inch, of a dusky colour: The upper Chap a little longer and blacker than the nether, the nether paler, and fleſh-coloured at the root or riſe. The Bill for its figure reſembles a *Thruſhes* or *Blackbirds*. The Tongue is not very ſhort, the mouth yellow within: The *Irides* of the Eyes hazel-coloured: The Ears great: The colour of the Feet and Claws a deep fleſh. [*Olina* attributes to the Feet a pale fleſh-colour approaching to white.] But the colour varies according to the age, for in young birds it is fainter, in old ones fuller. The outmoſt foretoes are very near of equal length one to another, which the middlemoſt doth much exceed both in thickneſs and length. The Heel or Spur is ſtrong, but not long as in *Larks*. The outmoſt Toe beneath is joyned to the middle one. The Guts are about ten inches long. The blind Guts very ſmall.

* A Lion colour, or deep gold colour.

This bird is not remarkable for any variety or beauty of colours, but well known from its ſinging by night. And now that mention hath been made of ſinging, I cannot forbear to produce and inſert the elegant words of that grave Naturaliſt *Pliny*, concerning the *Nightingales* admirable skill in ſinging, her ſtudy and contention, the ſweetneſs of her accents, the great variety of her notes, the harmonious modulation and inflection of her voice; which becauſe I cannot ſo render in *Engliſh* but that they muſt needs loſe much of their native *Emphaſis* and Elegancy, I ſhall put down in the Language the Author wrote them. *Luſciniis* (ſaith he) *diebus ac noctibus continuis quindecim garrulus ſine intermiſſu cantus, denſante ſe frondium germine, non in noviſſimum digna miratu ave. Primùm tanta vox tam parvo in corpuſculo, tam pertinax ſpiritus. Deinde in una perfecta muſicæ ſcientia modulatus editur ſonus: Et nunc continuo ſpiritu trahitur in longum, nunc variatur inflexo, nunc diſtinguitur conciſo, copulatur intorto, promittitur revocato, infuſcatur ex inopinato: Interdum & ſecum ipſe murmurat; plenus, gravis, acutus, creber, extenſus, ubi viſum eſt vibrans, ſummus, medius, imus, breviterque omnia tam parvulis in faucibus, quæ tot exquiſitis tibiarum tormentis ars hominum excogitavit: Ut non ſit dubium hanc ſuavitatem præmonſtratam. Ac nè quis dubitet artis eſſe, plures ſingulis ſunt cantus, nec iidem omnibus, ſed ſui cuique. Certant inter ſe, palámque animoſa contentio eſt. Victa morte finit ſæpe vitam, ſpiritu priùs deficiente quàm cantu. Meditantur aliæ juniores, verſúſque quos imitentur accipiunt. Audit diſcipula intentione magna & reddit, vicibúſque reticent. Intelligitur emendatæ correctio, & in docente quædam reprehenſio.* Thus *Pliny*.

The

The Rhetorical Harangues of Modern Writers in commendation of the *Nightingale* I ſtudiouſly omit, ſith almoſt all they have concerning it is owing to *Pliny*, being either repeated in the ſame words, or a few only changed; or elſe compoſed in imitation of what we have delivered out of him. Theſe things, though with me they ſcarce obtain belief, yet will they ſeem very credible, if compared with what *Geſner*, from the relation of a certain friend of his, delivers concerning the admirable faculty of theſe birds in imitating of humane ſpeech. To theſe things (ſaith he) let me add a ſtory which a friend of mine, a very learned and credible perſon, wrote to me.

Becauſe you are writing of Birds, I will tell you ſomething concerning *Nightingales* imitating mens voice, and repeating their diſcourſes, which is indeed wonderful, and almoſt incredible, but yet moſt true, and which I my ſelf heard with theſe Ears, and had experience of, this laſt Diet at *Ratisbone* in the year 1546. whilſt I lodged there in a common Inn at the ſign of the *Golden Crown*. Our Hoſt had three *Nightingales*, placed ſeparately, ſo that each was ſhut up ſingly by it ſelf in a dark Cage. It happned that at that time, being the Spring of the year, when thoſe birds are wont to ſing indefatigably, and almoſt inceſſantly; I was ſo afflicted with the Stone, that I could ſleep but very little all night. Then about and after Midnight, when there was no noiſe in the houſe, but all ſtill, you might have heard ſtrange janglings and emulations of two *Nightingales*, talking one with another, and plainly imitating mens diſcourſes. For my part I was almoſt aſtoniſhed with wonder. For they in the night-ſeaſon, when all was whiſt and quiet, in conference together produced and repeated whatever they had heard in the day time from the Gueſts talking together, and had thought upon. Thoſe two of them which were moſt notable, and maſters of this Art, were ſcarce ten foot diſtant one from the other: The third hung more remote, ſo that I could not ſo well hear it as I lay in bed. But thoſe two it is wonderful to tell, how they provoked one another, and by anſwering invited and drew one another to ſpeak. Yet did they not confound their words, talking both together, but rather utter them alternately, or by courſe. But beſides the daily diſcourſe, which they had lately heard of the Gueſts, they did chant out eſpecially two ſtories one to the other for a long time, even from Midnight till Morning, ſo long as there was no noiſe of men ſtirring, and that with that native modulation and various inflection of their notes, that no man, unleſs he were very attentive and heedful, would either have expected from thoſe little Creatures, or eaſily obſerved. When I asked the Hoſt, whether their Tongues had been ſlit, or they taught to ſpeak any thing? He anſwered no; whether he had obſerved or did underſtand what they ſung in the night? He likewiſe denied that. The ſame ſaid the whole Family. But I who could not ſleep whole nights together, did greedily and attentively hearken to the birds, greatly indeed admiring their induſtry and contention. One of the ſtories was concerning the Tapſter, or * Houſe-knight (as they call them) and his Wife, who refuſed to follow him going into the Wars, as he deſired her. For the Husband endeavoured to perſuade his wife, as far as I underſtand by thoſe birds, in hope of prey, that ſhe would leave her ſervice in that Inn, and go along with him into the Wars. But ſhe, refuſing to follow him, did reſolve either to ſtay at *Ratisbone*, or go away to *Nurenberg*. For there had been an earneſt and long contention between them about this matter, but (as far as I underſtood) no body being preſent beſides, and without the privity of the Maſter of the Houſe; and all this Dialogue the birds repeated. And if by chance in their wrangling they caſt forth any unſeemly words, and that ought rather to have been ſuppreſſed and kept ſecret, the Birds, as not knowing the difference between modeſt and immodeſt, honeſt and filthy words, did out with them. This diſpute and wrangling the Birds did often repeat in the night time, as which (as I gueſſed) did moſt firmly ſtick in their memories, and which they had well conned and thought upon. The other was a Hiſtory or Prediction of the War of the Emperour againſt the Proteſtants, which was then imminent. For as it were preſaging or prophecying they ſeemed to chant forth the whole buſineſs as it afterwards fell out. They did alſo with that ſtory mingle what had been done before againſt the Duke of *Brunſwick*. But I ſuppoſe thoſe Birds had all from the ſecret conferences of ſome Noblemen and Captains, which as being in a public Inn, might frequently have been had in that place where the Birds were kept. Theſe things (as I ſaid) they did in the night, eſpecially after twelve of the clock, when there was a deep ſilence, repeat. But in the day-time for the moſt part they were ſilent, and ſeemed to do nothing but meditate upon, and revolve with themſelves what the Gueſts conferred together about either at Table, or elſe as they walked. I verily had never believed our *Pliny*

* Servant of the houſe.

writing

writing ſo many wonderful things concerning theſe little Creatures, had I not my ſelf ſeen with my Eyes, and heard them with my ears uttering ſuch things as I have related. Neither yet can I of a ſudden write all, or call to remembrance every particular that I have heard.

The *Nightingale* is very impatient of cold, and therefore in Winter-time either hides it ſelf in ſome lurking place, or flies away into hot Countries. *Ireland* (as *Boterus* relates) is altogether deſtitute of *Nightingales*; which whether it be true or not I cannot tell. In the South part of *England* in Summer time they are very frequent, but in the North more rare. Some build upon the ground at hedg-bottoms, others in thick green buſhes and ſhrubs. They lay four or five Eggs.

It is called in *Italian*, *Roſſignuolo*, from its red or fulvous colour; or (as *Aldrovandus* rather thinks) from the diminutive *Latine* word, *Luſciniola*.

In *Italy* among thoſe little birds, which growing fat in the Autumn are ſold indiſcriminately for *Beccafico's*, the *Nightingale* is one.

It breeds in the Spring-time about the month of *May*, building its Neſt of the leaves of trees, ſtraws and moſs. It ſeldom ſings near its Neſt for fear of diſcovering it, but for the moſt part about a ſtones caſt diſtant.

It is proper to this Bird at his firſt coming (ſaith *Olina*) to occupy or ſeize upon one place as its Freehold, into which it will not admit any other *Nightingale* but its Mate.

It haunts for the moſt part in cool or ſhady places, where are little Rivulets of water, ſuch as are Quick-ſet hedges, ſmall groves, and buſhes, where are no very high trees, for it delights in no high trees except the Oak.

Additions to the Hiſtory of the Nightingale out of *Olina*, and others.

§. I.

The choice of the Neſtlings, and how to take and order them for ſinging.

MAke choice of ſuch to bring up for ſinging as are bred earlieſt in the Spring; becauſe, 1. They prove the beſt ſingers, as having more time to con and practiſe their notes before Winter. 2. They are eaſieſt rear'd, and become ſtrong to endure the cold, having mued their feathers before Autumn, whereas the ſecond brood, muing them later, are ſubject to be over-run with Vermine, and often ſurprized and killed by the cold, while they are bare of feathers. 3. Such conſequently prove more healthful and long-lived.

The young Nightingales (ſaith *Olina*) muſt be taken when they are well feathered; [ſaith a late Engliſh Author, when they are indifferently well feathered, not too little, nor too much: If too much, they will be ſullen; and if too little, if you keep them not very warm, they will die with cold, and then alſo they will be much longer in bringing up;] and together with the Neſt put in the bottom of a little basket made of ſtraw, covering the Neſt ſo that they cannot get out, not tangle or double their Legs; keeping them at firſt in a quiet place where few people reſort, feeding them eight or ten times a day with heart of a Veal or Weather raw, well cleanſed and freed from skin, films, ſinews, and fat, cut into ſmall pieces of the bigneſs of a writing Pen. [Our Engliſh Author mingles a like quantity of white bread, ſoaked in water, and a little ſqueezed, with the fleſh, chopping both ſmall as if it were for minc'd meat,] giving to each bird upon a ſticks end two or three ſmall pieces [of the quantity of a grey Peaſe] at a time. Make them drink two or three times a day, by putting to them a little Cotton-wool dipt in water, on the end of a ſtick: Keeping them in this manner covered, till they begin to find their feet, and leap out of the Neſt: Then put them in a Cage with freſh ſtraw, fine moſs or hay at the bottom, [lining the Pearches with green bays, for they are very ſubject to the cramp at the firſt] feeding and ordering them as before, till you ſee they begin to feed themſelves, which you ſhall perceive by obſerving them pick the meat from the ſtick; then take of the heart ſome pieces of the bigneſs of a nut, and faſten them to the Cage ſides. When they are come to feed themſelves, give them four or five times a day a gobbet or two. Let them have a cup of water very clean and bright, changing the water in Summer-time twice a day, doing the ſame by the fleſh, that it grow not ſower nor ſtink. When they are

are fully grown, put into little boxes with ſtone bottoms, on one ſide of the Cage crums of Paſte, ſuch as we ſhall anon deſcribe, and on the other ſide Sheeps heart, ſuch as was before mentioned. *When they begin to moult* (ſaith our Engliſh Author) *give them half an Egg hard boiled, and the other half ſheeps heart, with a little Saffron mixt in the water, for you muſt not make it too ſtiff, nor too limber. Give them no Duck-eggs: For I had ſix Nightingales killed one night with a Duck-egg.*

How to know the Cocks from the Hens.

Among theſe Neſtlings the Cock may be known from the Hen by this token: After he hath eaten he will get up the Perch, and begin to tune or record to himſelf, which you ſhall perceive by the motion of his Throat, whereas the Hen at firſt records little, or not at all. Moreover, the Cock is wont to ſtand ſometimes for a good ſpace upon one foot; otherwhiles to leap or run furiouſly to and fro in the Cage, and to draw out his warbling Notes with a long continuance. Some are of opinion that theſe *Neſtlings* ſing not comparably to the wild *Nightingales*, becauſe they want the teaching of their Dams. Wherefore to make them prove good, it is convenient to place them near one that hath the right wild note. But experience confutes this obſervation, theſe proving as well as thoſe: Nature without any other teacher inſtructing them to utter the notes proper to their own kind. *Herein I muſt crave leave to diſſent from* Olina, *for Authors generally agree, and experience confirms it, that old Nightingales do teach their Young their Airs and that of all birds* Nightingales *emulate one another, and other birds, yea, and men too, in ſinging moſt.*

How to find the Neſt.

For finding the Neſt where the Cock ſings, and if ſo be he ſings long in a place, then the Hen ſits not far off; but if he hath young ones he will now and then be miſſing, and then the Hen when you come near her Neſt will ſweet and cur: And if you have ſearched long and cannot find it, ſtick a meal-worm or two upon a thorn, and obſerve which way the Cock carries them, and ſtand ſtill, or lie down, and you will hear the Young when the old one feeds them, (for they make a great noiſe for ſo ſmall a bird.) When you have found the Neſt if they be not fledg'd enough, touch them not, for if you do they will never tarry in the Neſt.

Theſe Neſtlings ſing for the moſt part in the Autumn, and ſometimes in the Winter, if they be kept in a warm Chamber, or in a place where the air is temperate. *Olina.*

§. II.

How to take Branchers, and old Nightingales, and to order them when taken.

WHen you have found the birds haunts, they may be taken by a Trap-cage, or Net-trap; deſcribed in *Olina*, and in the forementioned Engliſh Author; baited with a meal-worm, or other worms or Maggots. So ſoon as you have taken the *Nightingale*, tie the tips of his wings with ſome brown thread, not ſtraining it too hard, that he may not have ſtrength to beat himſelf againſt the top and wires of the Cage, for by this order he will grow tame ſooner, and be more apt to eat his meat. You ſhall ſhut him up in a Cage covered above half with green Bays, or brown paper, [*Olina* ſaith, covered with paper, and for a while without Perches] or elſe turn the Cage from the light in ſome private place, that at firſt he be not diſturbed, to make him wilder than he would be. * Feed him five or ſix times at the leaſt every day with ſheeps heart and Egg ſhred ſmall and fine, mingling amongſt the ſame ſome red Ants, and three or four red Earth-worms. And becauſe no Nightingale will at firſt eat any ſheeps heart or Paſte, or hard Egg, but live meat, as Worms, Ants, Caterpillars, or Flies; therefore taking him out in your hand, you muſt open his Bill with a ſtick made thin at one end, and holding it open, give him a gobbet about the bigneſs of a grey peaſe: Then when he hath ſwallowed that, open his Bill and give him another, till he hath had four or five ſuch bits: Then ſet him ſome meat mingled with ſtore of Ants, that when he goes to pick up the Ants he may eat ſome of the ſheeps heart and Eggs with it. At the firſt you may ſhred three or four meal-worms in his meat, the better to entice him, that ſo he may therewith eat ſome of the ſheeps heart by little and little; at laſt when you perceive him to eat, give him the leſs Ants in his meat, and at laſt nothing but ſheeps heart and Eggs. [*Olina* makes no mention of forcing meat down his throat, but only laying it by him in the Cage, and adviſes to tie or faſten ſome pieces of heart to Maggots and Caterpillars, to inure the bird to eat fleſh.] Our Author alſo, if the bird be ſullen, adviſes to get ſome *Gentles* or *Maggots*, and take your paſte and roll it up in pieces like to little worms about half an inch long, and

* Birds taken in *April* muſt be fed ſeven or eight times a day, for then they are apter by half to die for want of food than in *July* or *Auguſt*.

and put amongſt them ſome Ants, and put your Maggots at the bottom of your pan, then put your paſte rolled like worms upon the Maggots, and they ſtirring at the bottom will make the paſte move as if it were alive; which will cauſe the *Nightingale* to eat it more readily; and when he hath taſted the meat made of ſheeps heart, and paſte two or three times, he then is not apt to forſake it. *But whereas he ſaith*, that Nightingales feeding only upon live meat do not know that any thing is for food but what ſtirs, *he is ſurely therein miſtaken, for* (*as* Olina *obſerves*) *they feed upon Figs, and ſome ſorts of berries, when wild, as well as upon Inſects.* Such birds as you take in *April* our Author adviſes when you go a taking to carry a bottom bag with you, and ſome meat in a Gally-pot to feed them abroad, for if they be over-faſted they ſeldom live, they requiring to be fed every hour: Alſo to put or cut their feathers from their vent, otherwiſe they will be ſubject to clog and bake up their vent, which is ſudden death. Birds, that are long a feeding, and make no curring or ſweeting for eight or ten days, ſeldom prove good; but on the contrary, they give great hopes of proving well when they take their meat kindly, and are familiar, and not buckiſh, and ſing quickly, and learn to eat of themſelves without much trouble. This is a ſure token of their proving excellent birds: For I have had ſome birds feed in twelve hours after taking of them, and ſing in two or three days, and thoſe never proved bad. When you ſhall find that the Nightingale eats well by himſelf, and ſings often without ſeeming to be diſturbed at every little noiſe, you ſhall by little and little put back the green Bays or Paper wherewith the Cage was covered, putting ſome Greens in the opened part.

How to diſcern the Cocks from the Hens.

Now to know the Cocks from the Hens among the wild ones, *Olina* gives us theſe marks of the Cock, That it hath a bigger Eye, and rounder and greater Head, a longer Bill, thicker Legs, a longer Tail, and of ſomething a brighter red. Our Engliſh Author will not allow theſe for ſufficient notes of diſtinction; and yet afterward he dare not deny but all taken together may be ſufficient. He adds, that *Nightingales* taken in *Auguſt* are moſt certainly to be diſcerned by the ſinging: And as for thoſe that are taken in *April*, your knowledge, ſaith he, reſteth in theſe obſervations: Firſt, when you think you have taken the bird you heard ſing, call again, and if the Cock anſwers and ſings again, then you have taken the Hen, and not the Cock; but if you find the Cock not to ſing, then be aſſured you have taken him. Alſo you may know him by the lower parts of the Sex, which the Cock puts forth, but the Hen doth not. If you take a bird about the middle of *May*, or beginning of *June*, the Breaſt of the Hen will be bare with ſitting, and all full of ſcurf, whereas the Cocks Breaſt is all well-feathered, without any bareneſs or ſcurf.

This Author ſaith, that he hath often proved, that old Nightingales are far perfecter, and far excellenter in their ſongs than any Neſtling or Brancher whatſoever, and will come to ſing as laviſh and as often, and with care and a little trouble will know you, and be as familiar alſo.

Branchers (ſaith *Olina*) are better than Neſtlings, and will come to be as familiar, and very often ſing all Winter. [Underſtand it in *Italy* where their Winters are ſhort and mild.]

§. III.

What Cages are beſt for Nightingales.

THe moſt convenient Cages for Nightingales are thoſe which have the Wires only afore, and all the other parts made up, and the top lined with Bays, [the ſides alſo againſt Winter] partly for warmth, the Nightingale being a very tender bird, and partly alſo becauſe being buckiſh he is apt to mount up and ſtrike his head againſt the top-wires or wood, and endanger the daſhing out his brains.

§. IV.

How to make a Paſte to feed Nightingales, being alſo good for the Wren, Robin-red-breaſt, Woodlark, Skie-lark, Throſtle, and other birds.

TAke of the flower of Chiches [or horſe-beans] finely ſifted two or three pounds, according to the number of birds you keep: Of ſweet Almonds blanch'd and beaten fine half a pound, of freſh Butter [without any ſalt in it] four ounces, three or four Yolks of Eggs boiled hard and pounded. Put theſe ingredients

in

in a Pan of the fashion of that they make Confects in. Set the Pan on a Trevet over a fire of Charcoal, taking care that it be not smoaked, and stirring it constantly with a wooden stick or *Spathule*, that it burn not to the bottom till it be sufficiently boiled. Then take a pound of Honey, and three ounces of Butter, and melt it in any little Vessel, still scumming of it; and when it is well melted and boiled, let your assistant, with a Ladle having a hole or two in the bottom, take it up, and pour it upon the Paste, gently moving his Ladle up and down, you in the mean while continuing to stir your Paste till it be well incorporated and grained. This Paste serves for the Summer: For the Winter, take a pretty quantity of Saffron and mingle with the Paste, for it is hot and opening, and will maintain the bird more chearful and lively. Then take it from the fire, and pass it through a Sieve or Colander with round holes of the bigness of an ordinary Tare. That which will not pass through of it self force through with your hand. Then spread it upon a Table, covered with a white clean cloth, to dry; and when it is sufficiently dry, put it up in a Pot. If it be too dry, you may moisten and mollifie it with a little honey. This Paste will last three or four, and sometimes six months, and serves for all sorts of small soft-beaked birds.

Many other sorts of Paste may be made like this of less charge; as instead of Almonds to use Walnuts, *&c.* These Pastes are best kept in earthen Vessels of white ware, covered close with Parchment, and set in a place rather moist than dry.

§. V.

The Nightingales diseases, and their cures.

First, note that the principal thing which causes most diseases, not only in *Nightingales*, but in other birds kept for singing, is want of keeping them clean and neat, whereby they clog their feet, which causes the Claws of several to rot off, and breeds the Cramp and Gout in others, and makes them never thrive, nor delight in themselves. No birds can be kept too clean and neat. Therefore be sure to let them have twice a week gravel at the bottom of the Cage, and let it be very dry when you put it in, for then it will not be subject to clog.

The Nightingale in Autumn is apt to grow extraordinary fat and foggy; [I have had several when fat to be three weeks and not eat one bit of meat] to remedy which during that time give him two or three times in a week worms taken out of a Pigeon-house, two or three at a time, or two or three field-Spiders a day, which will purge and cleanse them extraordinarily. Upon the falling of his fat he must be kept warm, and have some Saffron given him in his meat or water. To raise them when they are very lean and poor, give them new figs chopt small among their meat, continuing no longer than till they have recovered their flesh.

Nightingales that have been kept two or three years in a Cage are very subject to the Gout: Which when you shall perceive, take them out of their Cage, and anoint their feet with fresh Butter or Capons grease: Do so three or four days together and it is a certain cure for them.

Another thing that *Nightingales* are subject to, is breakings out about their Eyes and Neb; for which likewise use your fresh Butter or Capons grease.

There also hapneth unto the *Nightingale* a straitness or strangling of the breast; which comes very often for want of care in making of their meat, by mincing fat therewith; and you may perceive it by the beating pain not afore accustomed that he abideth in this place, and also by his often gaping: Other whiles this disease hapneth by reason of some sinew or thread of the sheeps heart (for want of well shredding) hanging in his throat, or clasping about his Tongue, which causeth him to forsake his meat, and grow very poor in a short time, especially if it be in the Spring time, or when he is in song. When you shall perceive it by his gaping, *&c.* take him gently out of his Cage, and open his bill with a quill or pin, and unloosen any string or piece of flesh that may hang about his tongue or throat: After you have taken it away, give him some white Sugar-candy in his water, or else dissolve it, and moisten his meat, which is a present remedy to any thing that is amiss.

If they grow melancholy, put into their water some white Sugar-candy; and if that will not do, about six or eight Chives of Saffron, continuing withal to give them the Paste and sheeps heart shred very fine, and also three or four meal-worms a day, and a few Ants and Ants Eggs: Also boil a new-laid Egg, and chop it small, and strew it among the Ants and their Eggs.

§. VI.

How to provoke a Nightingale to ſing.

TO make *Nightingales* ſing more than ordinarily, or at ſuch times as they are not wont, give them in Winter-time Paſte of Pine kernels pounded, and in their drinking-cup a chive or two of Saffron: For thoſe two things by heating them, render them chearful and brisk, without inducing any noxious alteration, and ſo excite them to ſing. That ſympathy alſo which this bird hath with Muſic both vocal and inſtrumental is of exceeding force to this purpoſe. And therefore if in the Chamber where ſhe is kept there be a conſort of ſweet ſounds or voices, ſhe is marvelouſly provoked to ſing. Many ſtories we have of *Nightingales* emulating and ſtriving to outvie one another, and other birds, yea, and men too in ſinging: Nay, that ſometimes a bird will ſtrain her note ſo to exceed that of her Antagoniſt, that ſhe will fall down dead upon the ſpot with contending and over-ſtraining her ſelf.

Olina hath the receit of an odoriferous unguent to ſtir up a *Nightingale* to ſing.

Take of Civet not ſophiſticate twenty grains, *Benjamin* and *Storax calamitæ*, of each three grains, mingle theſe together in a Mortar in the form of a ſoft ointment; Then diligently obſerve the buſh and particular branch, on which the Nightingale is wont to ſit and ſing, and there making as it were a little ſhelf of the leaves and boughs, lay thereon ſome meal-worms, and anoint the branch next to your ſhelf with this Unguent. The *Nightingale* when he returns from feeding, will preſently fly up to his bough, and finding there the meal-worms will fall a eating of them, and ſenting the odour of the Ointment will begin to ſing, and being as it were intoxicated with the perfume, will not give over, nor ſtir from the place though you take the boughs from about him. For as the *Nightingale* exceeds all other birds in ſinging, ſo doth he alſo in the exquiſiteneſs of his ſent: Wherefore alſo when wild he doth moſt willingly haunt where ſweet herbs grow: And is particularly delighted in Musk, ſo that a grain or two of true Musk put in Cotton, and that in a ſmall Reed ſerving for him to pearch on in his Cage, will provoke him to ſing.

Chap. X.

The Black-cap: Atricapilla ſeu Ficedula, *Aldrov. called by the Greeks*, Συκαλὶς & Μελαγκόρυφος, *by the Italians*, Capo Negro.

THis is a very ſmall bird, not weighing above half an ounce: Its length from the tip of the Bill to the end of the Tail is ſix inches; its breadth between the ends of the Wings ſtretcht out nine. The top of the Head is black, whence it took its name: The Neck cinereous; the whole back of a dark green. The quill-feathers in each Wing eighteen in number, of a dusky colour, ſave that their edges are a little green. The Tail hath twelve feathers, two inches and an half long, and almoſt equal, ſharp-pointed, of a dusky colour, with a little tincture of green. The nether part of the Neck, the Throat, and upper part of the Breaſt are of a pale aſh-colour: The lower Belly white, tinctured with yellow. The Bill ſtreight, ſlender, black, longer, and leſſer than in the *Titmice*: The Tongue cloven and rough: The Feet of a lead colour, the Claws black. The outmoſt Toe below is faſtned to the middlemoſt. The head of the Female is of a brown or cheſnut colour rather than black.

This bird is frequent in *Italy*, it is alſo found in *England*, but more rarely, *Turner* in vain contradicting.

Geſner ſaith, that the firſt Summer the head of theſe birds is red, and afterward grows black, and that in the Cocks only, for in the Hens it continues always red. The Ancients report, that the *Black-caps* [*Atricapillæ*] in the beginning of Autumn are changed into *Ficedulæ*, or *Beccafigos* by the mutation of their voice and colour; from whom, till I be aſſured by experience, I muſt crave leave to diſſent.

**The*

* *The fourth Beccafigo of* Aldrovand.

The *Beccafico* described by *Aldrovand* in the fourth and fifth place in his Chapter of *Ficedulæ* may perchance differ specifically from our *Black-cap*. On the upper side, Head, Back, Wings, and Tail it is of a brown colour, inclining to a chesnut. The Female on the nether side is all white; the Male from white declines to cinereous. The quil-feathers of the Wings in the Male are black, with some white ones intermixt: In the Female they incline to a chesnut colour, as doth also the Tail, which in the Cock is black. Contrariwise, the Feet in the Cock incline to a chesnut colour, in the Hen are black.

Beccafigo's abound in *Candy*, as *Bellonius* witnesses, and also in the Island of *Cyprus*, where they are salted up in great numbers, and transported into other Countries. With us in *England* they are called by a general name, *Cyprus-birds*, and are in no less esteem with our Merchants for the delicacy of their taste, than they were of old with the *Italians:* And that deservedly, (saith *Aldrovandus*) for feeding upon two of the choicest fruits, *viz.* Figs and Grapes, they must needs become a more wholsom food than other birds, yielding a better nourishment, and of more easie concoction. *Beccafigo's* are accounted best and most in season in the Autumn, as being then fattest by reason of the plenty of meat that season affords them. At which time they are highly prized and coveted by the *Italians* even now adays.

Chap. XI.

The golden-crown'd Wren: Regulus cristatus, *Aldrov.* lib. 17. cap. 1. *The* Trochilus *of Pliny and* * *Aristotle, who also calls it* Πρόσθυς *and* Βασιλίδς. *Others call it by a diminutive word* Βασιλίσκος. *In Tuscany it is called* Fior Rancio, *that is, the* Marigold Flower, *from the colour of its Crest.*

* *Hist. Animal. lib. 9. cap.* 11.

THis is the least of all birds found with us in *England*, weighing not more than one single drachm. Its length from the tip of the Bill to the end of the Claws is four inches and an half, to the end of the Tail four and a quarter. The breadth of the Wings extended six and three quarters. The top of the Head is adorned with a most beautiful bright spot, (which they call a crest) of a deep Saffron or pale Scarlet colour. Hence it got those ambitious titles of * *Regulus* and *Tyrannus*. This Crest or Crown (if you please so to call it) it can when it lists, by corrugating its forehead, and drawing the sides of the spot together, wholly conceal and render invisible. It is of an oblong figure, and extended directly through the middle of the Head from the Bill towards the Neck. The edges of it on both sides are yellow; the whole is environed with a black line. The sides of the Neck are of a lovely shining yellowish green colour. The Eyes are encompassed with white. The Neck and all the Back from a dark green incline to yellow. The Breast is of a sordid white. [In the bird that I *J. R.* described the Breast and Belly were dashed with a faint green.] The Wings were concave, not much unlike to a *Chaffinches* Wings. The quil-feathers of the Wings, as in almost all small birds, were eighteen, all of a dusky colour, only their exteriour edges yellowish, and their interiour whitish. The tips also of the three next to the body were white. But what was most especially notable in the Wings of this bird was, that the middle quill-feathers, or indeed all excluding the five outmost, and the three inmost, had their exteriour Webs, as far as they appear above the covert feathers, to a considerable breadth black, so that when the Wings are shut they make a black spot of a good bigness about the middle of each Wing. The outmost quil-feather was very short and little. The covert-feathers of the first row have white tips, all together making a white line across the Wing. Above also towards the ridge of the Wing is a white spot.

* Little King and Tyrant.

The Tail is made up of twelve sharp-pointed feathers, an inch and half long, not forcipate, of a dusky colour, only the exteriour borders of the feathers are of a yellowish green.

The Bill is slender, streight, black, half an inch long. The feet yellowish, and the Claws of a not much different colour. The Tongue long, sharp, and cloven. The *Irides* of the Eyes of a hazel colour.

The ſtomach ſmall, muſculous, and full of Inſects; whence it is manifeſt (as *Ariſtotle* rightly ſaith) that it is a vermivorous bird. The Female, as in moſt other birds, hath not ſo fair colours.

We ſaw of theſe birds firſt to be ſold in the Market at *Nurenberg*: Afterwards our worthy Friend Mr. *Fr. Jeſſop* of *Broomhall* in *Sheffield* Pariſh, whom we have occaſion often to mention in this Work, ſent us of them, which he had found and caught in the Mountainous Woods about *Highloe*, near *Hatherſedge* in the *Peak* of *Derbyſhire*. The ſame alſo found them here in *Middleton* Park in *Warwickſhire*, where he ſhot them and brought them to us. They abide and haunt for the moſt part on the tops of trees, eſpecially Oaks.

What is ſpoken of the antipathy and feud between this bird and the *Eagle* we look upon as an Old Wives Fable. *Aldrovandus* writes, that ſhe lays ſix or ſeven Eggs together before ſhe ſits, not bigger than Peaſe.

Chap. XII.

A little yellowiſh Bird without name, called by Aldrovandus Regulus non criſtatus, *perchance the* Aſilus *of Bellonius, or the* Luteola *of Turner.*

This is equal to, or ſomewhat bigger than the *creſted Wren*, weighs two drachms, being in length from the tip of the Bill to the end of the Tail, or, which is all one, the end of the Claws five inches, in breadth between the extremities of the Wings extended ſeven.

All its upper ſide, ſave the Wings and Tail, is of a dusky or cinereous colour, tinctured with green. The Rump is greener than the reſt of the Back. A yellowiſh line is produced from the Noſthrils above the Eyes almoſt to the hinder part of the Head. The nether ſide, *viz.* the Throat, Breaſt, and Belly is white with a daſh of green, and ſometimes yellow. The Wing and Tail-feathers are dusky, having their outer edges green. The feathers under the baſtard-wing, and the coverts of the underſide of the Wings, from green decline to a lovely yellow. Each Wing hath eighteen prime feathers, the outmoſt of which is very ſhort and ſmall. The Tail is two inches long, not forked, made up of twelve ſharp-pointed feathers.

Its Bill is ſlender, ſtreight, ſharp, half an inch long, the upper Mandible being dusky on the outſide; but the angles of the Mouth are yellowiſh: The mouth within yellow. The Noſthrils are large: The Legs and Feet ſmall, of a dusky Amber colour. The outmoſt fore-toe at bottom grows to the middle one. Its Gizzard is ſmall. It ſings like a *Graſhopper*, and doth much frequent Willow-trees. It is much in motion, continually creeping up and down trees and ſhrubs, and ſings with a querulous note. It builds its Neſt of moſs, and ſtraws, and a few feathers and hairs within. It lays five Eggs all over beſprinkled with red ſpecks.

The birds of this kind vary in colour, ſome being of a paler, ſome of a deeper green or yellow: in ſome the Belly is white, without any tincture of green.

The greater not creſted *Regulus*.

Mr. *Jeſſop* ſet us a bird in all points exactly like that here deſcribed, and whoſe note alſo reſembled the noiſe of a *Graſhopper*, but twice as big.

Now that the Reader may judge whether the *Aſilus* of *Bellonius* be the ſame with this bird, as we ſuppoſe, we will ſubjoyn *Bellonius* his deſcription thereof.

* *Avium*, lib. 7. cap. 6.

The *Aſilus*, * ſaith he, is of all birds the leaſt, except the *Regulus* and *Tyrannus* (that is, according to him, the common Wren, and the creſted Wren) at leaſt there is none leſs than it. It is almoſt always ſinging. It would be like to the *creſted Wren*, were not the creſt on its Head yellow. And yet it is yellow in the folds of its Wings, and in their extremities, as alſo upon the Back, and about the Tail. The Legs, Feet, Claws, and Bill are black; but both the extremities of the Bill have ſomething of yellow. It is long, weak, and fit to catch Inſects, upon which it feeds, refuſing grain, and lives in the ſhady places of Woods. *Ariſtotle* mentions a little bird by the name of Οἰστρος, *Gaza* renders it *Aſilus*, thought to be ſo called becauſe it is not much bigger than the Inſect *Oeſtrus*.

Chap. XIII.

The Wren, Passer troglodites *of Aldrovand, by Turner and Bellonius called falsly* Regulus.

It weighs three drachms, being extended from the point of the Bill to the end of the Tail four inches and an half: The Wings stretcht out equal to six inches and an half. The Head, Neck, and Back are of a dark spadiceous colour, especially the Rump and Tail. The Back, Wings, and Tail are varied with cross black lines. The Throat is of a pale yellow, the middle of the Breast whiter: Below it hath black transverse lines, as have also the sides. The lower Belly is of a dusky red. The tips of the second row of Wing-feathers are marked with three or four small white spots. The tips of the covert-feathers of the Tail are alike spotted. The number of quil-feathers in each Wing is eighteen. The Tail, which for the most part it holds erect, is made up of twelve feathers.

The Bill is half an inch long, slender, yellowish beneath, dusky above: the Mouth within-side yellow: The *Irides* of the Eyes hazel-coloured. The outer Toes are fastned to the middle one as far as the first joynt. It creeps about hedges and holes, whence it is not undeservedly called *Troglodites*. It makes but short flights, and if it be driven from the hedges, may easily be tired and run down.

It builds its Nest sometimes by the Walls of houses, in the back-sides of Stables, or other Out-houses covered with straw, but more commonly in Woods and Hedges, without, of Moss, within, of hairs and feathers. This Nest is of the figure of an Egg, erect upon one end, and hath in the middle of the side a door or aperture, by which it goes in and out. Being kept tame it sings very sweetly, and with a higher and louder voice than one would think for its strength and bigness; and that especially in the Month of *May*, for then it builds and breeds. It lays nine or ten, and sometimes more Eggs at a sitting.

A late English Writer tells us, that he hath had eighteen Eggs out of one Nest, and sixteen young ones out of another. It is strange to admiration that so small a bodied bird should cover so great a number of Eggs, and more strange, that it should feed such a company of young, and not miss one bird, and that in the dark also. They breed twice a year, about the latter end of *April*, and beginning of *June*, or middle of it. The Young are to be fed and rear'd like the young *Nightingales*, giving them often, and but one or two morsels at a time. Give them once in two or three days a Spider or two.

It perfectly cures the Stone of the Kidneys or Bladder (as *Aetius* writes) being salted and eaten raw; or being burnt in a pot close-covered, and the ashes of one whole bird taken at once, either by it self, or with a little * *Phyllon* and Pepper; or lastly, being roasted whole, only the feathers pluckt off and cast away. *A kind of *Mercury*.

All the Modern Writers of the History of birds before *Gesner* take this bird to be the *Regulus* of the Ancients.

Chap. XIV.

The Humming Bird, Guainumbi *of Marggrave, and Johnston in his Natural History of Birds*: Guaiminibique *of Jo. de Laet in his Description of the West Indies*, Book 15. Chap. 7. Gonambuch, *or* Gouambuch *of Lerius in the eleventh Chapter of his American History, and of Thevet in his* 48. *Chapter of the singularities of Antartic France*; Tomineio *of Josephus à Costa in* Book 4. Chap. 37. *of his Natural and Moral History of the West Indies, so called perchance because it is so light, that it weighs only one Spanish* Tomino, *that is, twelve grains.* Ourissia, (*that is, a Sun-beam*) *or* Tomineio *of Clusius in* Book 5. *of his Exotics*, Chap. 7. Passer Mosquitus *of Oviedo in his Summary*, Chap. 48. Hoitzitzil *of Fr. Hernandez in* Book 9. Chap. 11. *Rerum medicarum Novæ Hispaniæ. Gomaræ in Historia de Mexicanæ urbis expugnatione*, Vicicilin.

THis kind of bird, whose Synonyma we have given, is the least of all birds. It comprehends under it many Species, or differences of which in general these things are delivered by those who have written of it.

1. That it moves the Wings with that swiftness, as not to be discerned by the Eye, so that it seems rather to want Wings; and that as it flies it makes a humming noise like a Hornet or Bee; insomuch that one who should see it flying by, would take it rather to be a Hornet than a Bee: Hence it took its name in English of *humming bird*. It will also so poise it self by the help of its Wings for a long space of time, as if it rested and stirred not, and so, being on the Wing, suck the flowers with its Bill, for it lights not upon them. But when it moves from one place to another, it is carried with that velocity like a bullet through the air, that very oft it cannot be seen or discerned as it flies along.

2. That it is fed and nourished with honey, dew, and the juice of flowers, which it sucks out of them with its Bill, or rather its very long Tongue, provided and fitted by nature for that use; so that, being taken alive, they cannot be kept for want of food, but die in a short time.

3. That it lies torpid or sleeps in Winter [hanging by the feet on a bough in some open place, according to *Franc. Lopez*: The Bill being fastned to the trunks of Pines or other trees, according to *Hernandes* and *Recchus*] and in the Spring revives or awakens, whence also these birds are called * *Renati* by the Inhabitants of the *Caribbee* Islands, *viz.* so long, say they, it continues alive, as the honey-bearing flowers endure, and when they wither and fail it becomes torpid, and continues without sense or motion for full six months space until new flowers come. Neither (saith *Hernandez*) is this an idle tale, or such a thing whereof one may well doubt: For this bird hath been more than once kept in a Chamber fastned to the * stock of a tree, and when it had hung as it were dead for six months, at what time Nature had appointed, it revived, and being let go flew away into the neighbouring fields. Believe it who will, I am not wont rashly or hastily to give credit to such relations: Though I know it is taken generally for an undoubted truth, and I find our Mr. *Josseline* in his *New Englands* rarities to report it for such. And truly if it lives only upon what it sucks out of flowers, in the Northern parts of *America*, when flowers fail, it must either lie torpid, or fly into the hotter Countries. But in the more Southern parts of *America* (as in *Brasil*) *Marggravius* writes, that these birds are found all the year long in the Woods in great numbers.

* That is, born again.

* The word is *Stipiti*, which also may signifie a stake, or any truncheon of wood.

4. Of the feathers of these and other birds of beautiful colours the Indians make the likenesses (for Pictures we must not call them) of Saints, and other things so dextrously, and artificially, and to the life that one would think they were drawn with a Pencil in colours, of which we have seen many in the Cabinets of the *Virtuosi*.

5. Although almost all the *Spaniards* who have written of the *West India* matters, have made mention of this bird, yet (which is strange) do they take no notice at all of its singing: Only *Lerius* and *Thevetus*, both *Frenchmen*, do attribute to it so high and sweet a note, that it gives not place to our *Nightingale*, which no man, who should

ſhould not hear and ſee it, could eaſily be perſwaded, could poſſibly proceed from ſo ſmall a body. *Marggravius* affirms, that they do not ſing, but cry, *Screp, ſcrep, ſcrep,* with one tone, and that almoſt continually, like Sparrows.

Marggravius deſcribes nine ſorts of this bird in the fifth Book of his *Natural Hiſtory of Braſil*, Chap. 4.

1. The length of the whole body of this *firſt* kind from the beginning of the Head (where the Bill is inſerted) to the riſe of the Tail is two inches. The Head, together with the feathers, is of the bigneſs of a mean-ſized ſweet Cherry: The Neck is three quarters of an inch long; the body an inch and a quarter. The body, together with the feathers, is ſcarce equal in bigneſs to a *Spaniſh* Olive. It hath a ſlender, and very ſharp, round, even, ſtreight Bill, yet toward the end a little inclining downward, an inch and half long. The colour of this Bill is black, excepting the lower Chap toward the riſe, where it is reddiſh. It hath a double or cloven Tongue, very ſmall or ſlender, like a fine ſilken thread, white, long, ſo that it can thruſt it forth far beyond the Bill: Small black Eyes; very ſmall and ſhort Legs and Feet, of a black colour: Four Toes in each foot, three ſtanding forward, and one backward, armed with long ſemilunar, very ſharp, black Claws. It hath a ſtreight Tail, an inch long, conſiſting for the moſt part of four feathers. The Wings, which are of two inches length, reach almoſt to the end of the Tail. Nature hath ſhewn a ſingular Art in the compoſure of the Wing-feathers. From the riſe of the Wings for about three quarters of an inch there is a double row of feathers one longer than the other, and the feathers are put one upon another, as it were ſhort wings upon long ones. Then after theſe feathers come the Wing-feathers (which are about ten) the ſubſequent interiour being ſtill longer than the precedent exteriour, ſo that the inmoſt, determining the end of the Wing, is the longeſt of all. Theſe Wings being ſpread it can fly a long time, and reſt in the ſame place, as it were hanging in the air. As it flies it makes a noiſe like a *Bruchus*, or more truly, like a linnen Spinning-wheel, *Hur, hur, hur.* The feathers of the Wings ſpread appear very thin and tranſparent. The colour of the feathers of the whole Head, the upper ſide of the Neck, the ſides, the whole Back, and the beginning of the Wings is wonderfully reſplendent, ſo that it cannot be well repreſented by any Painter, for with a green, ſuch as is ſeen in the Necks of *Peacocks* and *Mallards*, a golden, flame-colour, and yellow are ſtrangely mixt, ſo that being expoſed to the Sun-beams it ſhines admirably. In the Throat, the lower ſide of the Neck, the breaſt, and all the lower Belly, and the upper Legs are white feathers, wherewith underneath the Neck are feathers of an excellent colour, diſperſedly intermixt. In the Belly beneath the white feathers lie black ones. The beginning of the Wings was, as I ſaid, of an admirable rare colour, all the reſt of the Wing brown, and of a ſhining ſpadiceous. The Tail conſiſts of feathers of a blue colour, like poliſhed Steel. They make their Neſts in the boughs of trees, of the bigneſs of a *Holland Schilling*. They lay very white Eggs, two for the moſt part, of an oval figure, not bigger than a Peaſe.

2. The *ſecond* ſort is more beautiful than the firſt, of the ſame bigneſs and figure. Yet is its Bill ſhorter, *viz.* $\frac{1}{3}$ of an inch long, of the ſame colour and figure with that of the former. The Tongue is the ſame, as alſo the Eyes, Legs, Feet, and figure of the Wings and Tail. The colour of the feathers in the Head, upper ſide of the Neck, Back, Wings, and Tail like to that of the former: But in the Throat or underſide of the Neck, the whole Breaſt, and lower Belly, to the very end of the body of ſo elegant and ſhining a green, with a golden colour, enterchangeably mixt, that they gliſter wonderfully. Near the Vent is a ſpot of a good bigneſs, in reſpect of the bulk of the bird, conſiſting of pure white feathers.

3. The *third* is leſſer than all the reſt. From the beginning of the Head, or inſertion of the Bill to the riſe of the Tail two inches and an half long: The Neck is almoſt one inch long: The Head not great: The Body an inch and half long. The Bill a little more than an inch long, black, round, ſharp, and almoſt ſtreight. The Legs and Feet like thoſe of the reſt. The feathers alſo of the Body and Wings are alike diſpoſed, but differently coloured. It hath a Tail longer than any of the reſt, ſomewhat more than three inches, conſiſting of feathers, of which that which is nearer to its riſe is ſhorter, the ſecond always longer: The Tail alſo is forked, and the bird flying ſpreads it into two large horns, ſo that the tips of the horns are an inch and half diſtant one from the other. The whole Head and Neck of this bird is of a ſhining ſilken black colour, inclining to, or interchanging with blue, as in the Necks of *Mallards*. The whole Back and Breaſt are green, ſhining enterchangeably with golden and

and Sea-green, as in the ſecond kind; and near the vent is alſo the like ſpot of white feathers. The Wings are of a liver-colour. The Tail is of a blackiſh blue, ſhining like poliſhed Steel blued over.

4. The *fourth* is a little leſſer than the third. The ſhape of the body and diſpoſition of the feathers the ſame, but it is of another colour, and differs alſo in the Bill and colour of the Legs. The Bill is an inch and half long, bowed downward like a *Polonian* Sword, round, every where of equal thickneſs, and ſharp-pointed. The upper part thereof is black, the under yellow, excepting the tip, which is alſo black. The top of the Head, the upper ſide of the Neck, as alſo the Wings, are of like colour with thoſe of the firſt kind. The Throat, the lower ſide of the Neck, the whole Breaſt, and lower Belly, from white incline to a red colour. It hath a Tail an inch long, ending with the Wings, conſiſting of feathers which from black incline to green, having white tips: The Toes ſo diſpoſed as the other *Species*, yet not black, but white or yellowiſh, with like ſemilunar, ſharp, and black Claws.

5. The *fifth* is in bigneſs equal to the third kind; having a black Bill, a little more than an inch long, and a little bending downward, black Eyes, as alſo Legs and Feet. The Throat, lower ſide of the Neck, and all the Belly are covered with black Velvet feathers, having as it were a gloſs of ſhining blue. Near the Vent is a ſpot of white feathers. But the black ends of the feathers on the ſides of the Neck, Breaſt, and Belly ſhine wonderfully with a rare mixture of Sea-water colour, golden and green. All the upper ſide of the Head and Neck, and the whole Back are adorned with feathers mixt with golden, fire-colour, and green, as is alſo the beginning of the Wings. The reſt of the Wings is of an iron or dusky colour. The Tail is a little more than an inch long, conſiſting of feathers of an elegant brown, with a gloſs of blue. About the edges theſe feathers are of the colour of poliſhed Steel blued.

6. The *ſixth* is in bigneſs equal to the *fifth*; hath a Bill of an inch long, a little bending, white underneath, black above. The whole Head, Neck, Back, and Belly, and the beginning of the Wings are covered with feathers of an excellent ſhining colour, conſiſting as it were of a mixture of much gold, half fire-colour, and a little green: In brief, ſhining like the Sun. In the Belly are a few white feathers mixt. The Legs are black: The Wings blackiſh: The Tail almoſt an inch and half long, handſom and broad, conſiſting of ſome feathers of the ſame rare colour with the reſt of the body, ſome of a mixt colour of green and golden, and white about the edges, ſome half white, half green, ſhining with golden, that is, on one ſide the ſhaft white, on the other green.

7. The *ſeventh* is a little leſs than the fifth and ſixth kind; hath a Bill not altogether an inch long, being of an aſh-colour all over the body, almoſt like a *Sparrow*, which here and there ſhineth rarely with a mixture of red like a Rubine.

8. The *eighth* is the moſt elegant of all, hath a ſtreight, black Bill half an inch long; a long, double [or cloven] Tongue. Its bigneſs and ſhape agrees with that of the ſecond kind. The whole Head above and upper part of the Neck ſhine with an admirable Rubine-colour, as if a Rubine were illuſtrated by the Sun-beams: But the Throat and under-ſide of the Neck do reſemble pure, poliſhed, *Hungarian* gold, ſhone upon by the Sun-beams: So that it is impoſſible in words perfectly to ſet forth the likeneſs of theſe colours, much leſs for a Painter to repreſent or imitate them. The beginning of the Back is covered with a Velvet black, the reſt with dusky feathers, with which is mixt ſomething of a dark green. The whole lower Belly is inveſted with feathers of the ſame colour with the back, the Wings with a dusky, as in other kinds. Near the Vent it hath a white ſpot. The Legs are ſlender and black: The Tail little more than an inch long, conſiſting of feathers of a **feuillemort* colour, which at the ends are dusky about the edges. The Tail is broad, which it ſpreads very wide in flying. The Wings end with the Tail.

* The French word ſignifies a dead leaf.

9. The *ninth* is for figure and bigneſs like the firſt. Its Bill is black above, and red underneath. Its whole body ſhines with that bright green colour mixt with golden, that the Belly of the ſecond ſort is of. The Wings are dusky: The Tail an inch long, pretty broad, conſiſting of feathers of the colour of poliſhed blue ſteel.

This Bird is by the *Braſilians* called by many other names beſides *Guainumbi*, as *Aratica*, and *Arataraguacu*, as *Marggrave* tells us, and *Guaracyaba*, that is, A Sun-beam, and *Guaracigaba*, that is, the hair of the Sun, according to *de Laet*. It is common in almoſt all the hotter Countries of *America*. It is reported (ſaith *Nierembergius*) that the powder of this Bird, taken inwardly, cures the Falling ſickneſs. What I find in *Marggravius* concerning the Tail of the firſt *Species*, *viz.* that it conſiſts of

of four feathers, I vehemently ſuſpect to be a miſtake either of the Printer, or of the Author; for in the Tail of one that I examined I found the uſual number of twelve feathers.

Chap. XV.

Slender-billed Birds, whoſe Tail is particoloured.

§. I.

The Fallow-Smich, in Suſſex *the Wheat-ear, becauſe the time of Wheat-harveſt they wax very fat; called by the Italians,* Culo Bianco, *and by us alſo in ſome places,* White-tail, *from the colour of its Rump.* Oenanthe ſive Vitiflora *of Aldrovandus.*

IN bigneſs it exceeds the *Houſe-Sparrow*. The colour of its Head and Back is cinereous, with a certain mixture of red, like to that which is ſeen in the Back of the * *Hawfinch*. [The Back of a Female Bird which I deſcribed at *Florence* was cinereous, with a certain mixture of green and red.] The Rump in moſt is white, whence alſo it took its name; in ſome it is of the ſame colour with the Back, or more red. The whole Belly is white, lightly daſhed with red. The Breaſt and Throat have a deeper tincture of red. The Belly in the Cocks is ſometimes yellowiſh. Above the Eyes is a white line continued to the hinder part of the Head. Below the Eyes a black ſtroak is extended from the corners of the mouth to the ears. [I found not this black line in the Females.] * *Coccothraufles.*

Both the quil-feathers and covert-feathers of the Wings are all black beſides the fringes or extreme edges, which are white, tinctured with a ſordid red. The Tail is two inches and a quarter long, made up of twelve feathers, of which the two middlemoſt have their upper half white, the reſt their lower, the other half being black. Moreover, the tips and edges of them all are white. [In the Hen the white takes up but a quarter of the feathers.]

The Bill is ſlender, ſtreight, black, more than half an inch long: The mouth is black within, the Tongue black and cloven: The aperture of the Mouth great: The *Irides* of the Eyes hazel-coloured. The back-toe is armed with a great Claw.

The Stomach is not very muſculous; out of which diſſected we took Beetles, and other Inſects. It breeds in forſaken Coney-burroughs.

The *Suſſex* Shepherds, to catch theſe Birds, uſe this Art. They dig long turves of earth, and lay them acroſs the holes whereout they were digged, and about the middle of them hang ſnares made of horſe-hair. The Birds, being naturally very timorous, if a Hawk happen to appear, or but a cloud paſs over and intercept the Sunbeams, haſtily run to hide themſelves in the holes under the Turves, and ſo are caught by the Neck in the ſnares.

Upon the *Downs* of *Suſſex*, which are a ridge of Mountains running all along by the Sea-coaſt for thirty or forty miles in length, they are taken yearly in great numbers, in Harveſt-time, or the beginning of Autumn, where for their fatneſs and delicate reliſh they are highly prized.

Aldrovandus hath another *Oenanthe*, which is a little leſs than the former, but yet bigger than a *Sparrow*, on the Head, Neck, Back, and leſſer Wing-feathers of a reddiſh yellow, deeper on the Back, lighter on the Breaſt, having black Eyes, behind which is alſo a long black ſpot, of a ſemilunar figure: A long, ſlender, black Bill; black Wing-feathers, whoſe ends are yellow, as are alſo thoſe of the Tail-feathers. The other *Oenanthe* of *Aldrovand.*

There is alſo a Bird called *Strapazino* by our Fowlers (ſaith *Aldrovand*) in the *Bononian* Territory, whoſe Rump underneath, and almoſt the whole Tail are likewiſe white: The Head and Back of a ruſty yellow: The Wing-feathers half black and half yellow; the Bill indifferent long, of a dusky colour. The Throat, Breaſt, and Belly are white, lightly daſhed with yellow. The Tail toward the Rump is yellow, elſe black. The *Strapazino* of *Aldrov.*

§. II.

The Whin-chat, under which alſo we treat of the Anthus *or* Florus *of Aldrovand.*

IN bigneſs it ſcarce exceeds a *Wagtail.* The upper ſide of the body, *viz.* The Back, Head, and covert-feathers of the Wings are of a pale *feuille-mort* colour, variegated with black ſpots, placed in rows. If you heed each ſingle feather, the middle part of it about the ſhaft is black, the ſides of a *feuille-mort*, or dusky yellow. The Belly is white, with a tincture of red. The ſides and upper part of the Breaſt from red incline to yellow. The Breaſt in ſome is variegated with black ſpots. From the Noſthrils above the Eyes to the hinder part of the Head is drawn a pale whitiſh line: Under the Bill alſo on each ſide is a white line. The intermediate ſpace between theſe lines in ſome birds is black. [In one Bird of this kind I obſerved a white ſpot behind each Eye.] The quil-feathers of the Wings are brown, with yellowiſh edges [or of a *feuille-mort* colour.] From the ninth the tips of the eight following are white. The covert-feathers next above the quils are black, with red edges. In which two white ſpots do mark or characterize each Wing, one under the baſtard Wing, the other at the firſt joynt, by which note this Bird may be eaſily diſtinguiſhed from all others of its kind. The middle quil-feathers towards the bottom are white. The Tail is two inches and an half long, conſiſting of twelve feathers, of all which, excepting the two middlemoſt, the lower half is white, the upper black, the utmoſt edges being red. The two middlemoſt in ſome birds are wholly black, in all for the greater part; having red or *feuille-mort* edges. They all end in ſharp points. The feathers next to the incumbent on the Tail both above and beneath reach further than its middle, ſo that they wholly hide its white part.

Its Bill is ſlender, ſtreight, ſhort, black, not only without, but alſo within: The *Irides* of the Eyes hazel-coloured. The Legs ſlender: The Feet, Toes, and Claws black: The lower joynt of the outmoſt Toe ſticks faſt to that of the middle one.

In the Female thoſe white ſpots of the Wing ſcarce appear, and the whole body is of a duller colour. It frequents banks and ditches, feeding upon Beetles, and other Inſects.

Nature ſometimes ſports her ſelf in the colours of this Bird: For in ſome birds the two middle feathers of the Tail are wholly black excepting the edges, which are reddiſh; in others their bottoms are white, *&c.*

It differs from the following bird chiefly by theſe notes, 1. That the upper ſide of the body is more beautifully coloured, the feathers having their middle parts about the ſhaft black, and their borders red. 2. That in each Wing they have two white ſpots. 3. That the lower part of their Tails is white. 4. That the feathers immediately incumbent on the Tail both above and beneath run out as far and further than the middle of the tail, ſo that they wholly hide the white part thereof. 5. In the white lines reaching from the Bill to the back of the Head.

The *Anthus* or *Florus* of *Ariſt.* Aldrov.

The Bird which *Aldrovand* ſaith is called commonly *Spipola*, which perchance may be the *Anthus* or *Florus* of *Ariſtotle*, is near of kin to, if not the ſame with this. It is of near the ſame bigneſs: Lives about Rivers and Fens, eſpecially in moiſt meadows; and if it be driven away by Horſes feeding there, it flies away with a certain chattering, wherein it ſeems after a faſhion to imitate the neighing of a horſe. Whether it be dim-ſighted or no I know not, but I hear that it flies with difficulty. As for its colour, that is rather to be called beautiful than otherwiſe; on the upper ſide throughout the Neck, Back, and Wings being of a dusky red, and varied with ſemilunar ſpots. The Head above is of the ſame colour, but hath not thoſe ſpots. The prime-feathers of the Wings, and thoſe that cover them are black, having their ſides and tips yellowiſh. The Bill is fit to catch Inſects, being neither ſlender, nor thick, of a white colour tinctured with yellow. The nether ſide from the Bill to the Tail is of the ſame colour, but variegated with ſpots, ſome long, ſome round, and ſome of another figure. Its Feet are black. This differs from our *Whin-chat* in the colour of its Bill, and in the place where it lives; ſith our *Chat* abides eſpecially in heaths, and among *Furze-buſhes.*

§. III.

§. III.

The Stone-ſmich, or Stone-chatter, or Moor-titling. Oenanthus noſtra tertia: Muſcicapa tertia, *Aldrov. The* Rubetra *of Bellonius as we judge, which Geſner makes the ſame with his* Todtenvogel, *or* Flugenſtecherlin.

IT is of the bigneſs of a *Linnet*, or thereabouts: Of half an ounce weight: From Bill-point to Tail-end five inches long. Its Bill is ſlender, ſtreight, black as well within as without. The upper Chap a thought longer than the nether, and a little crooked: The Tongue cloven: the *Irides* of the Eyes hazel-coloured: The Legs, Feet, and Claws black; the outer Toe grows to the middle one below, as in other ſmall birds. The Head is great, in the Cock almoſt wholly black, as is alſo the Throat under the Bill: In the Hen it is particoloured of black and a dirty red. The upper part of the Neck is black; on each ſide it is marked with a white ſpot, ſo that the bird ſeems to have a ring of white about its Neck. The middle of the Back is black, only the outmoſt edges of the feathers fulvous. Above the Rump is a white ſpot. The Breaſt is fulvous, or of a yellowiſh red colour: The Belly white, with a daſh of red.

[In the Female the feathers of the Head, Neck, and Back from red inclining to green, having their middle parts black; the Rump is red; the Chin of a pale aſh-colour. It hath a whitiſh ſpot on each ſide the Neck: The Breaſt is of a deeper, but the belly of like colour with the Cocks.]

The prime feathers of the Wings are all dusky, excepting the two next to the body, which have a white ſpot at bottom. The edges of all are red. All the covert feathers of the Wings have alſo red edges. The Wings in both Sexes are adorned with a white ſpot in the feathers next the Back. The Tail is near two inches long, and conſiſts of twelve feathers, not forked, and black. [The tip and exteriour Web of the outmoſt feather on each ſide are white.]

It hath a Gall-bladder; a Stomach not very fleſhy, in which diſſected we found Beetles, and other Inſects; ſhort, round, tumid blind Guts.

That which I [*J. R.*] deſcribed at *Florence* differed ſomewhat in colours, and other accidents; thus: It was of the bigneſs of a leſſer *Titmouſe*: Its Body ſhort and round: Its Head, for the proportion of its body, great. The top of the Head, the Neck, and Back particoloured of black and a dirty red, the middle part of each feather being black, and the edges red. The quil-feathers are eighteen, all dusky, their exteriour edges being of a *feuille-mort* colour. Of the feathers of the ſecond row thoſe five on the middle joynt are black, with *feuille-mort* edges, the reſt are of the ſame colour with the quil-feathers. The leſſer rows are of like colour with the foreſaid five middle feathers. The Tail-feathers are all black, only their edges are paler. The Cock is black about both Eyes, and under the Throat, the tips of the feathers being white. The Breaſt and parts under the Wings in both Sexes are fulvous or red; the middle of the Belly being whiter. The feathers of this bird are ſoft, and ſtand ruffling out, as in a *Jay*. In all other points it agrees with the above deſcribed, ſo that I doubt not but it is the ſame.

The third and fourth *Muſcicapæ* of *Aldrovand* differ not, I think, from this, nor from one another otherwiſe than in colour.

It is found for the moſt part in Heaths, and is very querulous.

§. IV.

* *The Braſilian* Guiraru Nheengeta *of Marggrave, which may be called, The American Chat.*

IT is as big, or a little bigger than a *Water-Blackbird*, or *Crake*; hath a ſtreight, compreſſed, black Bill, more than half an inch long: Sapphire-coloured Eyes, with a black Pupil. The * upper Legs are covered with aſh-coloured feathers: The lower with a black skin, as are alſo the Feet, which have four Toes ſtanding after the uſual manner, with ſharp, black Claws. The whole Head, Neck, Breaſt, and lower Belly are cloathed with white feathers approaching to a dilute grey; but the Back with cinereous. From the Bill on each ſide through the Eyes to the end of the ſides of the Head is a long black ſpot extended. The Wings are black, but not of a deep colour.

* Others call them the Thighs.

The Tail hath very black feathers, which yet have white tips; and above alſo are covered with white ones. This for its bigneſs ought rather to have been referred to the *Thruſh-kind*.

§. V.

A Bird called Coldfinch by the Germans.

THis Bird was ſhot by Mr. *Jeſſop* in the Mountains of the *Peak* in *Derbyſhire*, and ſent us by him. Its Belly is white; its Breaſt of a dusky yellow: The Head and Back of a dusky or greeniſh aſh-colour: The covert-feathers of the Tail black. The quil-feathers of the Wings likewiſe black; but from the fifth they are all white toward the bottoms, whence ariſes a white ſpot or ſtroak croſs the Wing, from a narrow beginning widening by degrees, ſo that in the laſt feathers it takes up all the exteriour Vanes; but where it is broader, it is gradually tinctured with yellow. The ſecond row of Wing-feathers is black, with whitiſh tips: The edges of the reſt of the coverts are green. The Tail is two inches and a quarter long. Its outmoſt feathers have their exteriour Webs almoſt wholly white; in the next to them the white part is narrower: All the reſt are black, but the middlemoſt deeper.

Its Bill is black, compreſſed, and almoſt triangular. The Tongue cloven and rough: The *Irides* of the Eyes of a hazel-colour. The Feet black; The outmoſt Toe joyned to the middlemoſt, as in other ſmall birds. The Teſticles ſmall and round. In the Stomach we found Inſects.

The *Ficedula tertia* of *Aldrovand.*

This excellent perſon ſent us alſo out of the *Peak* of *Derbyſhire* the third *Beccafigo* of *Aldrovand*, which I ſuppoſe differs only in age or Sex from the precedent. The Throat, Breaſt, and Belly are much whiter than in that. All the exteriour Webs of the outmoſt feathers of the Tail are white, of thoſe next to them the lower half. This hath a great white ſpot in each Wing, altogether like the precedent: Above the Bill alſo it hath a white ſpot: The Back elſe is cole-black. In its faſhion, bigneſs, Bill, and Tail it agrees with the *Coldfinch*.

Chap. XVI.

The White-throat. An Spipola prima *Aldrov?*

THe body of this Bird ſeems to be ſomething longer than that of the *Beccafigo* before deſcribed; but of almoſt the ſame magnitude. From the tip of the Bill to the end of the Tail, or of the Feet, (for they are equally extended) it hath ſix inches and a quarter of length: Between the extreme points of the Wings ſpread eight and an half of breadth. The upper Bill is black, the lower white. The Tongue ſlit with a deep inciſion. The Mouth within yellow: The *Irides* of the Eyes hazel-coloured. The Feet are of a dusky yellow or Amber-colour: The back-toe great; the exteriour foretoes equal, and leſs than in other ſmall birds, joyned at bottom to the middlemoſt, the interiour by an intervening membrane, which we have not obſerved in other Birds of this kind. The upper ſurface of the body from red inclines to an aſh-colour. The Head more cinereous: The Chin white, the reſt of the Throat white, with a tincture of red. The Breaſt alſo and lower Belly are ſomething red. [In the Hen the Breaſt is white, without any mixture of red.]

The outmoſt edge of the firſt or outmoſt quil-feather is white: The exteriour edges of thoſe next the body are red. The extreme feathers of the Tail on each ſide have all their exteriour Webs, and half their interiour white: Of the next to theſe the tips only are white. All the reſt are black, only the extreme borders or edges, eſpecially of the two middlemoſt, incline to cinereous.

It frequents Gardens, and feeds upon Beetles, Flies, and other Inſects: Creeping and hopping up and down in buſhes, like the *Hedg-Sparrow*. It builds alſo in buſhes not far from the ground. The outer part of the Neſt is made of the tender ſtalks of herbs and dry ſtraws; the middlemoſt of fine bents and ſoft graſs; the inner, on which the Eggs lie, of horſe-hair, or other long hair. It lays about five Eggs, oblong, of a dusky colour, mingled of white and green, beſprinkled over with black ſpecks.

This

This Bird is very like the *Ficedula* above deſcribed, yet differs in ſome particulars, eſpecially that the outmoſt feathers of the Tail in this are white; whereas in that the Tail is all of one colour.

Among the doubtful birds of this kind, at leaſt to us not ſufficiently known, we reckon, 1. The *ſmall Nightingale*, *Luſciniola* or *Rouſſette* of *Bellonius*, which you may find in *Aldrovand*, *tom.*2. *pag.*767. perchance the ſame with the *Giarola* of *Aldrovand*, having a red Bill, and the colour of the body like a *Quail*. 2. *Oenanthe congener*, *Aldrov. tom.* 2. *p.*764. 3. The other *Spipola* of *Aldrovand. tom.*2. *p.*731. the deſcription whereof we have already ſet down, **p.*153. which perchance may be the ſame with our *Spipoletta*, or with our *Whin-chat*, *p.* 168. 4. *Spipola tertia* or *Boarina* of *Aldrovand*, *p.*732. which we have already entred the deſcription of, *p.*153. 5. The *Stoparola* of *Aldrovand*, *p.*732, which you may find alſo in *pag.* 153. of this work. 6. *Boarina* of *Aldrovand*, *p.*733. whoſe deſcription we have ſubjoyned to the *Ficedula*, *p.* 158. 7. *Griſola*, which we have annexed to our *Spipoletta*, *pag.* 153. 8. *Anthos* or *Florus*, which we have remembred in our Chapter of *Oenanthe*, *pag.*169.

* Of the Latine Edition.

Theſe, and ſome other birds, comprehended by *Aldrovandus* in three Chapters, *viz.*twenty ſixth,twenty ſeventh,and twenty eighth of the ſeventeenth Book,under the titles of *Spipolæ*, *Stoparolæ*, and *Muſcicapæ*, ſeem to us reducible to three or four Species, *viz.* to the *White-throat*, or *Moucherolle* or *Paſſer rubi*, (for *Bellonius* his *Moucherolle* is perchance another ſort of bird) and the *Beccafigo* or *Black-cap*.

Chap. XVII.

The Water-Wagtail; Motacilla, *in Greek* Σεισπυγὶς.

§. I.

The white Wagtail: Motacilla alba.

This Bird is every where ſo well known, that it may ſeem enough to name it, not needing any deſcription. It weighs ſix drachms, being in length from the point of the Bill to the end of the Tail ſeven inches three quarters; in breadth between the extremities of the Wings ſtretcht out eleven. The Bill is ſlender, not an inch long, ſharp-pointed, and black. The Tongue cloven, and as it were torn: The Mouth within black: The *Irides* of the Eyes hazel-coloured: The Feet, Toes, and Claws long, and of a dark blackiſh colour. The back-claw very long, as in *Larks*. The outer Toe at its riſe ſticks faſt to the middle one. White feathers encompaſs the upper Chap of the Bill, then the Eyes, being produced on both ſides almoſt to the Wings. The Crown of the Head, upper and lower ſide of the Neck, as far as the Breaſt, and the Back are black: The Breaſt and Belly white. The middle of the Back from black inclines to cinereous: The Rump is black. [In another Bird, below the Throat I obſerved a ſemicircular black ſpot like a Creſcent, the horns being produced almoſt as far as the Jaws.] The Wings ſpread are of a ſemicircular figure; the quil-feathers in each eighteen in number, of which the three outmoſt end in ſharp points: The tips of the middle ones are blunt and indented; the inmoſt are adorned with white lines. The covert feathers of the firſt row are black, having their tips and edges white: Thoſe of the ſecond row have only white tips. Its Tail is very long,of about three inches and an half,which it almoſt continually wags up and down, whence alſo it took its name. The Tail hath twelve feathers, of which the two middlemoſt are longer than the reſt, and ſharp-pointed; the others all of equal length: The outmoſt are almoſt wholly white, the reſt black. The colour of the Plumage in this kind in ſeveral birds varies not a little, being in ſome more cinereous, in ſome blacker. The Liver is of a pale colour.

It is much converſant about the brinks of Rivers, and Pools, and other watry places, where it catches Flies, and water Inſects: Moreover it follows the Plough, to gather up the Worms, which together with the earth it turns up: As I find in *Aldrovandus*, and our Husbandmen have told me of their own obſervation; who therefore call it the *Seed-bird*, as Mr. *Johnſon* informed me.

In the Northern part of *England* it appears not in the Winter, and is alſo then more rare

rare in the Southern: Either becauſe it is impatient of cold, or for want of meat; Flies, and other winged Inſects, on which it chiefly feeds, being not to be found in Winter-time. In the Gizzard of one diſſected we found Inſects like to *Meal-worms*. *Geſner* writes, that the Fowlers in his Country have obſerved the *Cuckow-chicken* hatch'd and brought up by this bird: The ſame, *Albertus*, and our experience alſo confirms, as we have* elſewhere ſhewn.

* In the Chapter of the Cuckow.

One or two ounces of the powder of this Bird put in a Pot cloſe-ſtopt and bak'd in an Oven together with the feathers, taken in *Saxifrage* water, or ſtrong White-wine is ſaid to be good againſt the Stone, eſpecially that of the Kidneys. But *Alexander Benedictus* thinks, that the modern Phyſicians, who commend this Medicine through miſtake, mean the *Wren* when they name the *Wagtail:* As if the *Wagtail* were of no force in breaking the Stone. *Geſner* (to whom alſo we readily aſſent) thinks that it matters not much what bird be burnt, ſith the vertue of the aſhes of almoſt all birds ſeem to be the ſame. Yet (ſaith he) if there be any difference, I would prefer thoſe ſorts of birds which feed upon Inſects, as Flies, Ants, and the like.

§. II.

The yellow Water-Wagtail: Motacilla flava.

IN bigneſs and ſhape of body it agrees with the white. It weighs five drachms; from the tip of the Bill to the end of the Tail being almoſt ſeven inches long; to the end of the Claws ſix. The under part of the Body is yellow, the Breaſt being darker than the reſt. The upper part is of a dark green, the middle of the Back being black. The crown of the Head is of a yellowiſh green. Above the Eyes is a yellow line reaching to the hinder part of the Head.

The Tail is two inches three quarters long, conſiſting of twelve feathers, the middle two whereof are ſharper than the reſt. The outmoſt on each ſide are above half white, the intermediate eight black: All of equal length. The figure of the Wings is the ſame with that of the precedent. The quil-feathers in number eighteen; of which the ſixteenth is longer than thoſe next it, and hath the outward limb white. The tips of the middle covert-feathers are of a greeniſh white; elſe the Wings are all over dusky. The Bill is black: The Tongue cloven, but not hairy. The *Irides* of the Eyes from cinereous incline to a hazel-colour. The Feet are black: The outer fore-toe is joyned to the middle one at bottom. The Spur or Claw of the back-toe is long as in a *Larks:* The blind guts ſhort. Some birds in this kind are much yellower or greener than others.

It builds upon the ground among the Corn; making its Neſt of bents and the ſtalks of herbs, ſpreading hairs within under the Eggs. It lays at one time four or five Eggs, varied with dusky ſpots and lines drawn without any order.

§. III.

The grey Wagtail. Motacilla cinerea, an flava altera *Aldrov?*

IT is of the bigneſs of the common or white *Wagtail.* Its note is ſhriller and louder: Its Bill black, ſtreight, ſlender, and ſharp-pointed: Its Eyes grey: Both upper and lower Eye-lid white. Moreover, above the Eyes a whitiſh line is all along extended. The upper ſurface of the body is* grey. The Head (which in proportion to the body is ſmall and compreſſed) is ſomething dusky. The Wings are blackiſh, croſſed in the middle by a whitiſh, yet not very conſpicuous line. The Chin and Throat are particoloured of white and grey: The Breaſt and Belly white, daſhed with yellow: The Rump round about of a deeper yellow. The Tail made up of twelve feathers, longer than the whole body; its outmoſt feather on each ſide is all over white; the two next white on the inſide, blackiſh on the out; the ſix middlemoſt all over blackiſh. The Legs (which are long) and the Feet (which are rugged or rough) are of a pale colour, but duskiſh. The Claws crooked, and the back-claw longer than the reſt.

* Cinereous, *i.e.* Aſh-coloured.

The bird here deſcribed was a Hen, as we learned by its *Vitellary* or bunch of Eggs, wherein more than forty Eggs were very conſpicuous and eaſie to be diſcerned. The Cock differs little, ſave that under his Chin he hath a black ſpot. They frequent ſtony Rivers, and feed upon water-Inſects.

The

The deſcription of this Bird was communicated to us by Mr. *Johnſon* of *Brignal* near *Greta* Bridge in *Yorkſhire*.

Chap. XVIII.

* *The Braſilian* Jamacaii *of Marggrave.*

IT is a ſmall Bird, of the bigneſs of a *Lark*. Its Body is three inches long, its Neck more than an inch, its Legs two inches: Its Tail almoſt four. It hath a ſmall Head; a Bill an inch long, ſtreight, only a little bending downward, ſharp-pointed, black, but below near its riſe a little bluiſh. The Head is covered with black feathers, as is alſo the Neck below, but above with yellow: The whole Back, Breaſt, and lower Belly likewiſe with yellow. The Wings are black, having in their middle ſome white feathers, which make white ſpots, in each Wing one. At the riſe of the Wings is a black ſpot croſſing the back. The Tail is alſo black: The Legs and Feet dusky. It is an elegant bird.

For the length of the Tail and colours of the feathers not much different, we have ſubjoyned this to the *Wagtails*, although *Marggrave* makes no mention of the manner of its feeding, or the places it frequents: Or whether it moves its Tail or not.

Chap. XIX.

* *The Braſilian* Guira guacuberaba *of Marggrave*

IS a Bird of the bigneſs of a *Goldfinch*. The lower part of the Neck, the Back, and end of the Belly are of a yellow or gold colour. The upper part of the Head and Neck, the fore-half of the Back, the Wings, and Tail are of a pale green. In the ends of the Wings are ſome dusky feathers intermixed. Under the Throat up to the Eyes it hath a great black ſpot. It hath a ſtreight, ſharp, yellow Bill, a little black on the upper part. The Legs and Feet are of a dusky colour.

Chap. XX.

* *The Braſilian* Guira coereba *of Marggrave*

IS a Bird of the bigneſs of a *Chaffinch*. It hath a black Bill, three quarters of an inch long, ſharp, and a little bending downward: Black Eyes: A Tongue ſlit into many filaments, on the top of the Head a cop or tuft of Sea-green feathers. The reſt of the Head, the Throat, and all the lower Neck, the Breaſt, and whole Belly, with the hinder half of the Back are covered with blue, but pale feathers: And from the Breaſt through the beginnings of the Wings to the Back, where the blue colour begins, paſſes a broad blue line croſs through the riſe of the Wings. All the upper ſide of the Neck, with the fore-half of the Back is covered with fine Velvet feathers of a deep black. The Tail is an inch and half long, and black. The Wings are great, and yellow about the middle. But the yellow part is covered, and cannot be ſeen when the Wings are cloſed, and the Bird ſits ſtill, but when ſhe flies the Wings appear elegantly ſtraked with black and yellow: Within ſide the Wings are almoſt wholly yellow. The upper Legs or Thighs are feathered with black, and in a manner blue feathers: The lower are naked, and of a Vermilion colour, together with the Feet; the Claws black. The Feet have four Toes diſpoſed after the uſual manner.

Chap. XXI.

* *The Braſilian* Japacani *of Marggrave,*

IS a Bird of the bigneſs of the *Bemtere* or *Schanepue:* Hath a black, oblong, ſharp-pointed Bill, bending a little downward: Golden Eyes, with a black Pupil. The Head is covered with black feathers. The Neck above, the Back and Wings with feathers of a colour mixt of black and Umber. The Tail above is black, underneath ſpotted with white. The Breaſt, all the lower Belly and Thighs have their Plumage mixt of white and yellow, interwoven with tranſverſe black lines or ſtrakes. The Legs are dusky. Four Toes in each placed after the uſual manner, furniſhed with ſharp, black Claws.

Chap. XXII.

Of Titmice: De Paris.

§. I.

Of Titmice in general.

TItmice are a ſort of ſmall birds, that are found for the moſt part about trees, and live chiefly upon Inſects which they find there. *Turner* writes, that they feed not only upon Worms, but alſo Hemp-ſeed and Nuts, which they perforate with their ſharp Bills. Some of theſe build in holes of trees: Others make Neſts of an Oval figure, with a hole left open in the ſide to go in and out at. They are reſtleſs birds, never ſitting long ſtill in a place, but flitting from bough to bough, and from tree to tree. They have ſhort Bills, but bigger for the bulk of their bodies than the precedent ſmall birds: Small bodies; and long Tails. The moſt of them are canorous: But all of them multiparous, laying many Eggs ere they ſit. *Titmice* are called by *Ariſtotle*, Αιγίθαλοι. The *Germans*, as well as we *Engliſh*, call them *Mice*, either becauſe like *Mice* they creep into the holes of trees, or becauſe (as *Geſner* writes) they will feed upon ſlaid Mice offered them: Which to us ſeems not likely. Of theſe we have obſerved in *England* five kinds, *viz.* 1. The great *Titmouſe*, or *Ox-eye*. 2. The *Colemouſe*. 3. The *Marſh-Titmouſe* or *Black-cap*. 4. The *blue Titmouſe* or *Nun*. 5. The *long-tail'd-Titmouſe*. The creſted Titmouſe and Wood Titmouſe of *Geſner*, we have not yet found in *England*.

§. II.

The great Titmouſe or Ox-eye: Fringillago ſeu parus major: Αιγίθαλος ωαχύτατος *of Ariſtotle.*

IT is well nigh as big as a *Chaffinch:* Of ſcarce an ounce weight: From tip of Bill to end of Tail half a foot long; from tip to tip of the Wings expanded nine inches broad. Its Bill is ſtreight, black, half an inch long, and of a moderate thickneſs. Both Mandibles of equal length. The Tongue broad, ending in four filaments. The Feet of a lead or blue colour. The outmoſt Toes below for ſome ſpace joyned to the middlemoſt.

The Head and Chin are black. From the corner of the mouth on each ſide below the Eyes a broad white line or ſpot paſſing backward takes up the cheeks. This white is encompaſſed with black. In the hinder part of the Head is another white ſpot, terminated on one ſide with the black of the Head, on the other with the yellow of the Neck. [In the Bird that I (*J. R.*) deſcribed I obſerved not this ſpot, and perchance in ſeveral birds the colours may vary ſomewhat.] The Neck, Shoulders, and middle of the Back are of a yellowiſh green. The Rump is blue: The Breaſt, Belly, and Thighs are yellow: Yet the lower or hindmoſt part of the Belly white. A broad, black line reaching from the Throat to the Vent divides the Breaſt and Belly in twain.

twain. The quil-feathers of the Wings, in number eighteen, beſide the outmoſt little one, are dusky, with white tips, or tips partly white, partly blue. The outer edges of thoſe three next the body are green. Of the covert feathers of the firſt row, thoſe that are about the middle of the Wing, with their white tips make a tranſverſe white line. The ſmaller covert-feathers of the Wings are blue. The Tail is about two inches and an half long, compounded of twelve feathers: The exteriour Vanes of all which, except the outmoſt, are blue or aſh-coloured, the interiour black. The outmoſt have their exteriour Vanes and their tips white. The Tail appears not forked, no not when it is cloſed.

§. III.

* *The Braſilian* Guiraienoia, *akin to the* Fringillago.

THis ſmall bird is of the bigneſs of a *Chaffinch:* Hath a Bill ſcarce half an inch long, and blackiſh; black Eyes. The whole head, lower ſide of the Neck, Breaſt, and lower Belly, and utmoſt half of the Back are cloathed with blue feathers: The upper ſide of the Neck, and fore-half of the Back are covered with black. The Wings alſo are black, but in their beginning have ſome blue feathers interſperſed: The reſt of the feathers are black, yet have blue edges. The Tail is almoſt an inch and half long, and alſo black, and the Wings end a little beyond the beginning of the Tail. The Legs are dusky, and each foot hath four toes placed after the uſual manner.

§. IV.

The Cole-mouſe: Parus ater Geſneri, *pag.* 616.

THe Head is by *Geſner* rightly deſcribed to be black, with a white ſpot in the hinder part. The Back is of a greeniſh aſh-colour: The Rump greener: The Wings and Tail dusky. The exteriour edges of the prime Wing-feathers green. The interiour covert-feathers of the Wings have white tips. The Tail, when ſhut, appears ſomething forked, from dusky inclining to green. The Bill is ſtreight, round, black. The Legs, Feet, and Claws bluiſh, or of a lead-colour. This is the leaſt of all this kind. By its ſmalneſs were other notes wanting, it is abundantly diſtinguiſhed from the *great Titmouſe.*

It weighs two drachms, being from Bill-point to Tail-end four inches three quarters long, and between the extremities of the Wings extended ſeven inches broad. The number of quil-feathers in each Wing is eighteen. The Tail is an inch and three quarters long, and compoſed of twelve feathers.

§. V.

The Marſh Titmouſe or Black-cap: Parus paluſtris Geſneri.

THe Head of this is black: The cheeks white; the back greeniſh: The Feet of a Lead-colour. It differs from that next above deſcribed, 1. In that it is bigger. 2. That it hath a larger Tail. 3. That it wants the white ſpot on the back of the Head. 4. That its under ſide is whiter. 5. That it hath leſs black under the Chin. 6. That it wants thoſe white ſpots in the tips of the covert-feathers of the Wings.

It weighs more than three drachms. From the point of the Bill to the end of the Claws it is by meaſure four inches and an half long. The diſtance between the extreme tips of the Wings extended is eight inches. The number of Wing and Tail-feathers is the ſame as in other ſmall birds. The Tail is more than two inches long, compoſed of feathers of equal length.

Geſner makes the Back of this bird dusky inclining to cinereous.

§. VI.

The blue Titmouſe or Nun: Parus cæruleus.

THe Bill of this Bird is pretty ſhort, thick, ſharp, and of a dusky blackiſh colour: The Tongue broad, ending in four filaments: The Legs of a lead-colour: The outmoſt Toes at bottom are faſtned to the middle ones.

The Head being of an azure colour is encompaſſed with a circle of white as it were a Wreath or Coronet. To the white circle ſucceeds another particoloured, encompaſſing the Throat and hinder part of the Head, above being almoſt of the ſame colour with the Head, towards the Throat and under the Throat black. Below this circle on the Neck is a white ſpot. From the Bill a black line paſſes through the Eyes to the hinder part of the Head. The Cheeks are white: The Back is of a yellowiſh green. The ſides, Breaſt, and Belly yellow; ſave that a whitiſh line produced as far as the Vent divides the Breaſt in two. In the Cock-bird the Head is more blue, in the Hen and young ones leſs.

The tips of the quil-feathers next the body are white, as alſo the outer edges of the foremoſt from the middle part upward. The covert-feathers of the Wings are blue, the innermoſt of which with their white tips make a white line croſs the Wing. The Tail is two inches long, of a blue colour, only the edges of the outmoſt feathers are a little white.

Its weight is three drachms: Its length from Bill-point to Tail-end four inches and an half, to the Claws four: Its breadth, the Wings extended, eight inches. The quil-feathers in each Wing eighteen, beſides the outmoſt ſhort one: The Tail-feathers twelve.

§. VII.

The creſted Titmouſe; Parus criſtatus *Aldrov.*

THis hath a pretty ſhort big Bill, of a blackiſh colour. Its Tongue is broad, and divided into four filaments. Its Feet of a lead-colour. The outer Toes for ſome ſpace from their divarication joyned to the middle one. The crown of the Head black, the edges of the feathers being white. At the hinder part of the Head begins a black line, which like a Wreath or Collar encompaſſes the Neck. From the lower Mandible of the Bill to this Collar is a black line produced. To the Collar and Chin is another bed or border of white contiguous. But beyond the Ears is a ſpot of black. The middle of the Breaſt is white; the ſides ſomething red. The Wings and Tail are dusky, only the exteriour edges of the feathers ſomewhat green. The Back from red inclining to green.

It weighs two drachms and an half: Is from the tip of the Bill to the end of the Tail five inches long: From tip to tip of the Wings extended eight inches and a quarter broad. The quil-feathers of the Wings are eighteen in number, the Tail-feathers twelve. The Tail two inches long. The Bill from the tip to the corners of the mouth half an inch.

§. VIII.

The long-tail'd Titmouſe. Parus caudatus.

THe crown of this Bird is white: The Neck black. From the Bill above the Eyes on each ſide to the hinder-part of the Head is a broad black line produced. The Jaws and Throat are white. The Breaſt white, varied with ſmall dusky ſpots. The Belly and ſides of a dilute Cheſnut colour: Of which, but mixt with black, both the Back and alſo the Rump partake.

The quil-feathers of the Wings are of an obſcure dusky colour, the outer edges of the interiour of theſe are white. The ſingular ſtructure or conformation of the feathers of the Tail difference this Bird from all other ſmall birds of what kind ſoever. For the outmoſt feathers are the ſhorteſt, the reſt in order longer to the middlemoſt, which are the longeſt, and that by a notable difference or exceſs, as in the *Magpie.* Of the outmoſt feather on each ſide the top and outer half from the ſhaft is white:

white: The next hath leſs white; of the third, only the outer part of the tip is white. All the reſt are wholly black. [In reſpect of theſe colours there may poſſibly be ſome variety in ſeveral birds.]

The Bill is ſhort, ſtrong, black: The Tongue broad, cloven, and divided into filaments: The Eyes bigger than in other ſmall birds; their *Irides* hazel-coloured: The edges of the eye-lids yellow: The Noſthrils covered with ſmall feathers. The Feet black, as are alſo the Claws, but deeper. The Claw of the back-toe biggeſt of all; as is uſual in moſt birds both great and ſmall. With us it frequents gardens rather than mountainous places. It builds like the *Wren*, or more artificially, making an arch over the Neſt of the ſame matter and contexture with the reſt of the Neſt; ſo that the Neſt reſembles an Egg erected upon one end, a ſmall hole being left in the ſide, whereat the bird goes in and out. By this means both Eggs and Young are ſecured from all injuries of the Air, Wind, Rain, Cold, *&c.* And that they may lie ſoft ſhe lines the Neſt within with ſtore of feathers and down. Without ſhe builds the ſides and roof of it of Moſs and Wool curiouſly interwoven.

Aldrovand in the ſeventeenth Book, and ſixteenth Chapter of his *Ornithology* doth accurately deſcribe the Neſt of this bird, ſuch as we have more than once ſeen, in theſe words. It was of an oblong figure like a Pine-apple, of two Palms length, and one broad, round, built of ſundry materials, *viz.* both tree and earth-moſs, Caterpillars Webs, and other like woolly matter, and Hens feathers, with that order and art, that the chief and middle ſtrength of the work, or texture of the Walls was of that yellowiſh green Moſs, the common hairy Moſs, that ſilk-like matter, and tough threads reſembling thoſe filaments ſuſpended in the Air, and flying up and down like Spiders Webs, which are accounted ſigns of fair weather, connected and interwoven, or rather entangled ſo firmly together, that they can hardly be plucked aſunder. Of the interiour capacity all the ſides, it ſeemed, as well as the bottom, were covered and lined with feathers, for the more ſoft and warm lying of the Young. The outmoſt ſuperficies round about was fenced and ſtrengthened with fragments of that leavy Moſs, which every where grows on trees, firmly bound together. In the forepart reſpecting the Sun-riſe, and that above (where an arched roof of the ſame uniform matter and texture with the ſides and bottom covered the Neſt) was ſeen a little hole, ſcarce big enough one would think to admit the old one. We found in it nine Young, *&c.*

§. IX.

The Wood Titmouſe of Geſner. Parus Sylvaticus, *Aldrov. t.2. p.724.*

THis *Titmouſe* is alſo very little, remarkable for a red ſpot through the midſt of its Crown; the parts on each ſide being black; the Legs dusky; the Wings black, and alſo the end of the Tail: The reſt of the body green; the Belly paler. Our people from the Woods, in which it lives, eſpecially about Fir-trees and Junipers, call it, *Waldmeiſzle* and *Thannenmeiſzle*, others from its note *Zilzilperle*, for it ſings *Zul, zil, zalp.*

Mr. *Willughby* was apt to think that the bird deſcribed by *Geſner* is no other than the *Regulus criſtatus.*

Chap. XXIII. §. I.

* *The Braſilian* Tangara *of Marggrave.*

IT is an elegant bird, of the bigneſs of a *Chaffinch*. It hath a ſtreight, pretty thick, black Bill: Black Eyes: Legs and Feet from cinereous inclining to dusky. On the forehead above the riſe of the Bill it hath a ſpot of black feathers. The whole Head and Neck are covered with feathers of a ſhining Sea-green. A circle or border of black feathers encompaſſes the beginning of the back like a Collar. But *below the Wings to the riſe of the Tail the Back is covered with yellow feathers. The whole lower Belly is of a rare blue. The Wings are black, and their lateral extremities blue, ſo that when cloſed they appear wholly blue, and their whole ends, outſides, or borders [*tota extremitas*] ſeem black. The beginning of the Wings

* The word is *ſub*, which is rather to be rendred under the Wings.

* On the outside.

alſo * externally ſhines with Sea-green feathers; and in the ridge or upper lateral extremity of each Wing are yellow feathers intermixt. It hath a Tail about an inch and half long, of black feathers, but whoſe lateral extremities or borders are blue: The end of the Tail is black. It is kept ſhut up in Cages, and cries, *Zip, zip*, like the *Rubrica*, called by the *Germans Gympel*. It is fed with meal and bread.

This deſcription is conceived in ſuch obſcure words, that I do not well underſtand the meaning of the Author; and therefore the learned Reader would do well to conſult the Latine.

§. II.

The ſecond kind of Tangara.

* Of a dusky yellow.

† The word is *minium*, which ſignifies red lead.

IT is of the ſhape and bigneſs of our common *Sparrow*: Hath a Bill from * yellow inclining to dusky, ſomewhat broad, ſharp-pointed, the nether Chap much ſhorter than the upper: Black Eyes: The whole Head is covered with feathers of a rare † ſcarlet colour: All the reſt of the body, with the Wings and Tail, of a ſhining black. The Thighs are covered with white feathers, and in their exteriour ſides have an oblong ſcarlet ſpot, as if they were ſtained with bloud. The Legs and Feet are aſh-coloured; and have four Toes diſpoſed after the uſual manner. The Tail is ſhort, of an inch length, and the Wings end near its riſe; *i.e.* when withdrawn or cloſed reach no further than the riſe of the Tail.

Book II. Part II. Sect. II. Memb. II.

Small Birds with thick ſhort ſtrong Bills, commonly called Hard-bill'd Birds.

Chap. I.

Of the Gros-beak or Haw-finch, called by Geſner, Coccothrauſtes.

§. I.

The common Gros-beak: Coccothrauſtes vulgaris.

THis Bird for the bigneſs of its body, but eſpecially of its Bill, in which it exceeds all others of this kind, doth juſtly challenge the firſt and chief place among thick-billed birds. The *French* from the bigneſs of its Bill do fitly call it *Grosbec*; the *Italians, Friſone* or *Froſone*. *Heſychius* and *Varinus* of the word Κοκκοθραύσης write only, that it is the name of a bird, but what manner of bird they do not explain. *Geſner* obſerving that name exactly to fit this bird, impoſed it upon it.

It is bigger than a *Chaffinch* by about one third part; ſhort-bodied: Its Head bigger than for the proportion of the body. Its Bill very great, hard, from a broad baſe ending in a ſharp point, of the figure of a Cone or Funnel, half an inch long, having a large cavity within, of a whitiſh fleſh-colour, almoſt like that of the interiour ſurface of the mother of Pearl ſhell, only the tip blackiſh. The Eyes are grey or aſh-coloured, as in *Jackdaws*. The Tongue ſeems as it were cut off, as in the *Chaffinch*. The Feet are of a pale red: The Claws great, eſpecially thoſe of the middle and back-toes. The middle Toe is the longeſt; the outer fore-toe and the back-toe are equal one to the other.

At the baſe of the Bill grow Orange-coloured feathers, between the Bill and the Eyes black. The lower Chap in the Males is compaſſed with a border of black feathers. The head is of a yellowiſh red, or ruſty colour: The Neck cinereous. The Back red, the middle parts of the feathers being whitiſh. The Rump from yellow inclines

inclines to cinereous. The sides and Breast, but especially the sides, are of a mixt colour of red and cinereous. Under the Tail, and in the middle of the Belly the Plumage is whiter. [In another bird the Back was of a grey or ash-colour, tinctured with red: The Head and Throat greenish: The sides and Breast painted with transverse black lines.]

The quil-feathers in each Wing are eighteen in number, of which the nine or ten foremost for half way from the shaft inward are white. The white part from the first inward being dilated. Of the subsequent one half is white, but not so far as the shaft: The three inmost or next the body are red. The tips of all from the second to the tenth shine with a changeable colour of purplish and blue, like the Necks of *Pigeons*. From the tenth the exteriour borders of the sixth or seventh succeeding are grey, else they are all dusky. The Tail is but short, of about two inches length, composed of twelve feathers, spotted at the top on their interiour Vanes with white, on their exteriour in the middle feathers with red, in the outer with black. [In another bird the middle feathers of the Tail were greenish]

About *Frankefort* on the *Main*, and elsewhere in *Germany*, and in *Italy*, it is common. In Summer time it lives in the Woods and Mountains; in the Winter it comes down into the Plains. It seldom comes over to us in *England*, *viz.* only in hard Winters. It breaks the stones of Cherries, and even of Olives with expedition, the Kernels whereof it is very greedy of. The Stomach of one we dissected in the Month of *December* was full of the stones of *Holly-berries*. It feeds also upon Hemp-seed, *Panic*, &c. and moreover upon the buds of trees, like the *Bulfinch*.

It is said to build in the holes of trees, and to lay five or six Eggs. It weighs an ounce and three quarters: Is in length from Bill to Claws seven inches and an half; in breadth between the tips of the Wings extended twelve and an half.

§. II.

The Virginian Nightingale: Coccothraustes Indica cristata.

IT is as big as a *Blackbird*, or something less. A black border compasses the Eyes and Bill; which is like to that of the common *Hawfinch*, or a little shorter. The Head is adorned with a towring crest, which it often moves as well toward the Bill, as toward the Tail. The colour of the whole is a lovely Scarlet, in the Head and Tail more dilute. It is brought into *England* out of *Virginia*; whence, and from its rare singing, it is called, The *Virginian Nightingale*.

Of this Bird *Aldrovandus* writes thus: In its native Soil, *viz.* in the Islands of *Capo Verde*, it is commonly called *Fruso*, a name very like to our *Italian Frisone*, [i. e. *Coccothraustli vulgari*] to which also it is very like in the Bill. Moreover, a black line or border encompasses its Bill; and it is (as *Hieronymus Mercurialis* witnesses) of the bigness of a *Thrush*. Wherefore also we thought fit to call it *Coccothraustes Indica*. It greedily devours Almonds, in which also it agrees with the *Grosbeak*, which with its Bill cracks such kind of fruits, and other Grains or stones; whence it is called *Nucifraga* or *Nut-cracker*. And that this Bird doth the like it is very probable, seeing it is likewise armed with a very thick and strong Bill. *Mercurialis* affirms, that by the *Portugues* it is commonly called, The *Cardinal bird*, because it is of a scarlet [*purpurei*] colour, and seems to wear on its Head a red hat. Of the nature and qualities of this Bird *Fr. Malochius*, Præfect of the Physic-garden at *Pisa*, gave me this account. It imitates the notes of birds, especially the *Nightingale*: it is greedy of *Panic* and *Almonds*, devours *Chickweed*; seeing its Image in a glass it hath many strange gesticulations, making a hissing noise, lowring its crest, setting up its Tail after the manner of the *Peacock*, shaking its Wings, in fine striking at the Looking-glass with its Bill. The temper of its body is very hot, which thence appears that it often immerses it self in water. It is of a very gentle nature, and will take meat out of ones hand. Its shape is as followeth. It hath a tuft on its Head of a triangular figure, and scarlet colour, with which colour also the Neck, Breast, and Belly are adorned. The ends of the Wings are not of so deep a scarlet, as neither the Tail, which for the proportion of the body is pretty long, of about a Palm, something erected, as broad as ones little finger. The Legs are short and whitish: The Claws strong, and something crooked. The whole bird measured from Head to Tail is full two Palms long.

Chap. II.

The Green-finch: Chloris, *Aldrov.* Ornithol. *lib.* 18. *cap.* 18.

IT is bigger than a *House-Sparrow*; of an ounce and $\frac{1}{8}$ weight; of six inches and an half length, measuring from Bill-point to the Feet or Tails end: of ten inches and an half breadth between the extreme terms of the Wings expanded. It is called by some the *Green Linnet*.

Its Bill is like that of the *Grosbeak*, but much less, of half an inch length, sharp-pointed, and not crooked: The upper Mandible dusky, the nether all whitish. The Tongue is sharp, and as it were cut off, ending in filaments: The Eyes furnished with nictating membranes: The Nosthrils round, situate in the upper part of the Bill next the Head: The Feet of a flesh-colour; the Claws dusky. The outer Toe at bottom sticks fast to the middle one.

The Head and Back are green, the edges of the feathers being grey. The middle of the Back hath something of a Chesnut colour intermingled. The Rump is of a deeper green or yellow: The Belly white: The Breast of a yellowish green: The Throat of the same colour with the Neck: The feathers contiguous to the Bill are of a deep yellowish green.

The borders of the outmost quil-feathers of the Wings are yellow, of the middlemost green, of the inmost grey. The inner feathers of the second row are grey, the outer green. All the rest of the covert-feathers of the Wings are green. The feathers along the base or (if you please) ridge of the Wing are of a lovely yellow. The coverts also of the undersides of the Wings are yellow. The Tail is two inches and a quarter long, made up of twelve feathers; of which the two middlemost are all over black, those next have their outer edges yellow: The remaining four on each side from the middle outwardly are black, but all their inner Webs from top to bottom yellow.

The Liver is divided into two Lobes, and hath a Gall-bladder annexed. The bird we dissected had a large Craw, a musculous stomach, filled with seeds of Plants.

It builds in hedges: The outmost part of its Nest is made of hay, grass, or stubble; the middle of Moss; the inmost, on which the Eggs lie, of feathers, wool, and hair. In this Nest it lays five or six Eggs, near an inch long, of a pale green colour, sprinkled with sanguine spots, especially at the blunt end.

The colours of the Hen are more languid, not so bright and lively: And on the Breast and Back it hath oblong dusky spots.

The *Chloris* of *Aldrovandus*, according to his description, seems to be less green than ours. It feeds upon the seed of *Rape*, *Thistles*, *Docks*, and most willingly *Canary-grass*, as do other birds of this kind.

The *Anthus* of *Bellonius*: *Le Bruant*.

The *Anthus* or *Florus* of *Bellonius*, called in *French*, *Bruant*, is of kin to this. He describes it thus: *Le Bruant* in *French* hath its name from its voice: For when it sings it expresses the word *Bruire*. As it flies it makes a noise. *Aristotle* calls it Ἄνθος, which word the *Latines* render *Florus*. The modern *Greeks*, I know not from what ancient name, call it also *Florus*. It is a little bigger than a *Chaffinch*: The Cocks are for the most part yellow: Yet some part of the Wings and Tail inclines to cinereous, but their greater feathers are of a more elegant yellow. The extremities of the Tail-feathers are also altogether yellow; but within of another colour. The Bill is great and sharp, of a pale colour: The Legs and Feet are something red. They are kept in Cages for the sweetness of their singing. They feed for the most part upon Hemp-seed, and keep much about tall trees, far remote from Meadows. It hatches at least five young ones.

Chap.

Chap. III. §. I.

The Bulfinch, Alp or Nope. Rubicilla ſeu Pyrrhula.

This Bird hath a black, ſhort, ſtrong Bill, in figure and ſtructure like that of the *Grosbeak*, but leſs. [In the elder birds it is ſomething crooked.] The Tongue is as it were cut off: Its Eyes are hazel-coloured: Its Claws black: Its Legs dusky. The lower joynt of the outmoſt Toe ſticks faſt to the middle Toe.

The Head for the proportion of the body is great. In the Male a lovely ſcarlet or crimſon colour illuſtrates the Breaſt, Throat, and Jaws, as far as the Eyes. The feathers on the crown of the Head above the Eyes, and thoſe that compaſs the Bill, are black: The Rump and Belly white: The Neck and Back grey, with a certain tincture of red. [The Neck, Back, and Shoulders ſeemed to me blue or aſh-coloured.] The quil-feathers of the Wings are in number eighteen; the laſt or inmoſt of which on the outer half from the ſhaft is red, on the inner black and gloſſie. Of the reſt the interiour [*i. e.* thoſe next the body] are black, with a gloſs of blue; the exteriour duſky or black. Of the firſt or outmoſt five the exteriour edges in the upper half of the feathers are ſomewhat white. The tips of the lower covert-feathers are cinereous, in the interiour more, in the exteriour leſs. The next to theſe are of the ſame colour with the Back. The Tail is two inches long, black, and ſhining, made up of twelve feathers.

The Cock is of equal bigneſs to the Hen, but hath a flatter crown, and excels her in the beauty of his colours.

They feed moſt willingly upon thoſe buds of trees which break forth before, indeed are pregnant with, the leaves and flowers, eſpecially thoſe of the Apple-tree, Pear-tree, Peach-tree, and other Garden-trees; and by that means bring no ſmall detriment to the Gardeners, who therefore hate and deſtroy them as a great Peſt of their Gardens, intercepting their hopes of Fruit.

Turner writes, that they are very docile birds, and will nearly imitate the ſound of a Pipe [or the Whiſtle of a man] with their voice. They are much eſteemed for their ſinging with us in *England*, and deſervedly in my judgment. For therein they excel all ſmall birds, if perchance you except the *Linnet*. I hear (ſaith *Aldrovandus*) that the Hen in this kind ſings as well as the Cock, contrary to what is uſual in moſt other ſorts of birds.

§. II.

* *The American Bulfinch or* Guiratirica *of Marggrave.*

It is of the bigneſs of a *Lark*: Hath a thick, ſtreight Bill, dusky above, underneath white, and a little incarnate. Its Legs are cinereous, with four toes ſtanding after the uſual manner. The whole Head, with the Throat, and the lower and middle part of the Neck are of a rare ſanguine colour. The Eyes blue: The Earholes large. The ſides of the Neck, the whole Breaſt and lower Belly are covered with white feathers. The upper ſide of the Neck hath black ones, with which a few white are mixt. The Back is grey (with a few black feathers interſperſed) as are alſo the beginnings of the Wings: The reſt of the Wings is black, as is the Tail, which is about three inches long. The lateral borders of the Wings are white.

Chap. IV.

The Shell-apple or Croſs-bill, called by the Germans Krutzvogel. Loxia, *Geſn. Aldrov.* An Tragon Plinii ?

IN ſhape of body it is not much unlike the *Green-finch:* It weighs an ounce and half, and from tip of Bill to Tail end is ſix inches three quarters long.

Its Bill is thick, hard, ſtrong, black, and contrary to the manner of all other birds, crooked both ways, the Mandibles near their tips croſſing one another: For the lower, being drawn out into a ſharp point, turns upward, the upper bends downward. Neither do they always obſerve the ſame ſide; for in ſome birds the upper Chap hangs down on the right ſide, the nether riſes up on the left; in others contrariwiſe, the lower takes the right ſide, the upper the left. The lower Chap is like the *Chafinches*, neither is the Tongue different. The Noſthrils are round: The Ears great and wide: The *Irides* of the Eyes from grey tend to a hazel-colour: The Feet dusky, the Claws black. The loweſt joynt of the outmoſt toe ſticks to that of the middlemoſt.

The middle parts of the Back and Head feathers are black, the edges green. In the Head there is ſomething of cinereous mixt with the other colours. The Rump is green: The Chin aſh-coloured: The Breaſt green: The Belly white, only under the Tail the middle parts of the feathers are black or dusky.

Each Wing hath eighteen quil-feathers, all blackiſh, only the outer edges of the foremoſt are green. The Tail conſiſts of twelve feathers, two inches and a quarter long, and black, with green edges. The Guts have many ſpiral convolutions. The blind guts are very ſhort.

This bird was deſcribed in the Autumn: He that ſold it told us that it changed colours thrice in a year, being green in the Autumn, yellow in the Winter, and red in the Spring. *Geſner* alſo ſaith, that they are firſt of all red on the Breaſt, Neck, and Belly; that then they grow yellow: And that they change colour eſpecially in Winter. Some affirm, that it changes colour every year, ſo that it ſometimes declines more to yellow, ſometimes to green, red, or aſh-colour. That it changes its colour with age, or according to the different ſeaſons of the year, we cannot but think probable, being ſo well atteſted. Perchance alſo in the ſame age and ſeaſon of the year the colour in divers birds may be different. For we ſaw and bought at *Nurenberg* in *Germany* two of this ſort of birds brought up together in one Cage, of which one was green, the other red, when the Summer was almoſt ſpent, and Autumn coming on. But however the colours may differ, this bird is ſufficiently characterized by the make of it Bill. Kept in Cages they climb up and down the ſides with the Bills and Feet, after the manner of *Parrots*.

It is a moſt voracious bird; much delighted and feeding very fat with Hemp-ſeed. It alſo loves Fir-kernels, and in the Months of *January* and *February* builds its Neſt in thoſe, or the like trees. They ſay, that with one ſtroak of its bill, it will in a trice divide an Apple in halves, that it may feed upon the Kernels, by that means doing a great deal of miſchief in Orchards.

In ſome parts of *Germany*, *Bavaria*, *Suevia*, *Noricum*, they are found in great numbers all the year round. Sometimes they come over to us, and in the Weſtern part of *England*, eſpecially *Worceſterſhire*, make bad work, ſpoiling a great deal of fruit in our Orchards.

One thing alſo more (ſaith *Aldrovandus*) ſeemeth to me ſtrange and unuſual in the *Croſs-bill*; that in the Winter-time, when all things ſhrink with cold, and other birds are mute, ſhe ſings; and in Summer, when other birds ſing, ſhe is ſilent. Which whether it be true or no let thoſe obſerve among whom ſuch birds are common. It ſings, they ſay, very ſweetly.

Chap. V.

Of Sparrows.

These Birds feed upon grains of Corn, Crums of bread, worms, and divers Seeds. Their Bills are short, thick, and something crooked: Their colour testaceous or earthy. They are very salacious, and therefore held to be short-lived.

§. I.

The House-Sparrow. Passer domesticus, *Aldrov.*

The weight of this well known, and every where obvious bird is 1 ⅛ ounce: Its length from the beginning of the Bill to the end of the Tail six inches and an half.

The Bill is thick, in the Cock black, at the corners of the Mouth between the Eyes yellowish, in the Hen dusky, scarce half an inch long: The Eyes hazel-coloured: The Legs and Feet of a dusky flesh-colour: The Claws black. The lower joynt of the outmost Toe, as in other small birds, grows to that of the middle Toe.

The Head is of a dusky blue, or ash-colour; the Chin black. Above the Eyes are two small white spots. From the Eyes a broad line of a spadiceous colour. The feathers growing about the Ears are ash-coloured. The Throat [below the black spot] of a white ash-colour. Under the Ears on each side is a great white spot. The lower Breast and Belly are white. The feathers dividing between the Back and Neck, on the outside the shaft are red, on the inside black, but toward their bottoms something of white terminates the red. The rest of the Back and Rump are of the same colour with *Thrushes*. made up as it were of a mixture of green, dusky, and ash-colour.

The Hen-bird wants that black spot under the Throat, as also the white spots on the Neck, and above the Eyes: Its Head and Neck being also of the same colour with the Rump: The nether side of the body of a sordid white. Instead of a white line cross the Wings it hath black feathers with pale reddish tips. In general the colours all the body over are not so fair and lively.

Each Wing hath eighteen quil-feathers, dusky, with reddish edges. From the bastard Wing a broad white line is extended to the next joynt. Above this line the covert-feathers of the Wings are of a *spadiceous colour; beneath they have their middle parts black, their exteriour edges red. The Tail hath twelve feathers, and is two inches and a quarter long, the middlemost feathers being something shorter than the rest: All of a dusky blackish colour, with reddish edges.

* A colour near to chestnut, but redder.

Its Testicles are great, as being a very salacious bird. Its Guts nine inches long: The blind Guts very short. Its Stomach musculous, it feeding upon Wheat, Barley, and other Grain. The Womb of the Female is great. It hath a Gall-bladder.

Whether or no it be so short-lived as is reported, I think there is some reason to doubt.

This kind of bird doth sometimes vary in colour: *Aldrovandus* setting forth a white and a yellow *Sparrow:* The figures and descriptions whereof may be seen in the fifteenth Book of his *Ornithology*, Chap. 11, 12.

§. II.

* *The foolish Bononian Sparrow of* Aldrovand.

It is in bigness equal to the common *Sparrow*. The colour of its whole body is yellowish, spotted every where with oblong rusty, or rather red spots, which on the Back are longer and bigger than elsewhere, all over tending downwards. The Bill is red, thick, and short: The Eyes great, their Pupils encompassed with a yellow circle, The Tail and Wings incline to black; but the ends of the lesser feathers in the Wings are white.

§. III.

* *A ſmall bird akin to the Sparrow:* Aldrov. *Book* 15. *Chap.*17.

THis ſmall bird, although it have not a black Chin, nor any footſtep of it, (as we have obſerved in ſome *Hen-Sparrows*) yet by the whole faſhion and make of its body it diſcovers and warrants it ſelf to be of the *Sparrow-kind*. Its Bill is whitiſh, as in the *Houſe-Sparrow*. It is painted all over the body with oblong reddiſh ſpots tending downward: But thoſe on the underſide of the Neck, and on the Breaſt are more manifeſt, becauſe thoſe parts are white, whereas the upper, *viz.* the Back, the upper ſide of the Neck, and the crown of the Head are red; as are alſo the whole Tail and the Wings: but moſt of the feathers of theſe have white ends: The Belly alſo and the Thighs are white: The Legs and Feet yellowiſh: The Claws long and black.

§. IV.

* *The ſpotted, or three-coloured Sparrow of* Aldrovand. *Book* 15. *Chap.* 13.

HE calls it three-coloured, for that whereas it conſiſts only of three colours, *viz.* white, black, and yellowiſh, no one of them can be ſaid to excell another. The whole Head and Neck are white, varied with yellowiſh ſpots. The Wings are adorned with the three forenamed colours, but the white and black are in them predominant. The Bill, as in Sparrows, thick, ſharp pointed, the upper Chap yellowiſh, the nether altogether yellow. The *Iris* of the Eye is white; the Pupil black. The Chin, Breaſt and Belly, Thighs, Legs, Feet, and Tail underneath are of a yellowiſh white; elſe the Tail is almoſt yellow.

§. V.

* *The white-tail'd Sparrow of* Aldrovand. *Book* 15. *Chap.*14.

THe Tail of this, although it be not altogether white, yet is of a pale, whitiſh aſh-colour, whereas otherwiſe for colour it is almoſt like the *Houſe-Sparrow*, but hath not that black ſpot under the Chin. The Bill, as in that, is white: The Eyes black: The Head, and all the lower parts from white incline to yellow. Large ſpots of almoſt a ferrugineous colour, beautified with very ſmall milk-white lines, are diſperſed all over the Back. All the feathers of the Wings are of a cheſnut-colour, round about yellow. The Legs and Feet are dusky.

§. VI.

* *The Dalmatic Sparrow of* Aldrovand. *Lib.*15. *Cap.*21.

THis bird *Aldrovand* ſaw only the Picture of at *Tartaglinus's* a Citizen of *Venice*. It is (ſaith he) bigger than our common *Sparrow*, but for colour almoſt like it. * Underneath alſo it is abſolutely white, but above of a pale red, no other colour interceding. The Eyes and Bill for the proportion of the body are great; and this laſt whitiſh. The Tail is forked; the Feet yellowiſh, adorned with tranſverſe lines almoſt of a fleſh-colour. The Claws black, pretty long and ſharp.

* The word *Pronè*, which as *Aldrovand* uſually accepts it ſignifies above.

§. VII.

* *The Ring-Sparrow of* Bellonius, *and the ſmall Sparrow living about Walnut-trees of the ſame Author.*

THe firſt of theſe differs from the common Sparrow, as well in that it is of a diverſe colour, as becauſe the ſpot, which in that is black, in this is yellow. He calls it * *Torquatus*, becauſe a white ring or wreath encompaſſes the Eyes under the Eye-brows. Moreover, it is more cinereous than the common *Sparrow*, hath a greater voice, and exceeds it in the bigneſs of the Body and Bill. It abides in Woods, building in the hollows of trees. The

* Ringed.

The other, called *Friguet* by the *French*, is leaſt of all, having a very ſhort, thick, black Bill; its Feet, Legs, Head, and Wings, like thoſe of the *Wall-Sparrow*. It builds in Trees.

§. VIII.

* *The tailed purple and black Indian Sparrow of* Aldrov. *Book* 15. *Chap.*28.

IT hath a Tail five inches long, made up of ten very black feathers. The quil-feathers of the Wings are alſo cole-black. The Head, Neck, and Rump are of a deep purple colour, yet the roots or bottoms of the feathers yellow. The Bill is pretty thick, ſomewhat hooked and ſharp, ſomething reſembling that of the *Butcher-bird*, black above, beneath where it grows to the Head white. The colour of the Legs I know not, for they were wanting in the caſe communicated to me, but it is likely that it hath black ones.

§. IX.

* *The* Tijepiranga *of Braſil or American Sparrow, Marggrave.*

IT is a little bigger than a *Lark*, and ſings like our common *Sparrow*. Its whole Body, Neck, and Head are of a delicate red or ſanguine colour: But the Wings and Tail of a ſhining black, ſaving that in the beginning of the Wings there is ſomething of red mixt therewith. The Legs are black, below the Knees bare of feathers, above covered with black feathers. The Bill like a *Sparrows*, the upper Chap black, the nether black alſo toward the point, but white toward the Head. The feathers on the Head black, which ſhe is ſometimes wont to ruffle up after the manner of *Sparrows*. All the feathers of the whole body are black within, red without, yet ſo complicated, that outwardly they appear wholly red. The Tail is almoſt three inches long. Each foot hath four Toes, and ſo diſpoſed as in moſt other birds.

There is found another ſort of this bird, of the bigneſs of a *Sparrow*, whoſe whole body is covered with bluiſh aſh-coloured feathers: But the Wings approach ſomething to a Sea-green. In the Belly and lower part of the Neck or Throat it is white, or rather of a ſhining ſilver colour. The Legs are aſh-coloured, as is alſo the Bill, which is like a *Chaffinches*. Each foot divided into four Toes, and thoſe ſituate as is uſual in birds.

§. X.

* *The long-tail'd Indian Sparrow with a ſcarlet Bill of* Aldrovand.

IT is of equal bigneſs to our *Houſe-Sparrows*, if you except the longer feathers of the Tail. It hath a ſhort thick Bill of a ſcarlet colour. Its Head is flat, elevated near the Neck, blackiſh, with a mixture of a greeniſh colour inclining to blue; which alſo is ſeen running downward through the Back and upper part of the Wings. The Wings are of three colours chiefly; firſt, that now mentioned; ſecondly, a white, as appears in the figure; thirdly, a black: To which ſucceeds fourthly, a yellowiſh colour, next which are the quil-feathers again black, but cinereous within. The Throat, lower ſide of the Neck, the Breaſt and Belly are white. The Tail is double, as in the *Peacock*, and alſo of two colours: The leſſer which ſuſtains the greater, being as it were its prop, is white; the greater, conſiſting of four very narrow feathers of nine inches long, is of a deep black. The Legs and Feet are ſpotted of black and white; the Talons black, and as in birds of prey very ſharp and hooked.

§. XI.

* *Another Indian long-tail'd Sparrow of* Aldrovand, *Book* 15. *Chap.*23.

THis is an exceeding beautiful bird, even fairer than the former: Of the ſame bigneſs. Its Bill is blue: Its Head alſo, as in that, flat; but more elevated in the Neck; all black; its Eyes alſo black, encompaſſed with a white circle, and having a yellow *Iris*: Its Neck and Breaſt are of a ſcarlet colour; its Belly and Thighs

white: Its Wings, Back, and Tail black: But a certain paleneſs is mingled with the quil-feathers of the Wings. The longer feathers of the Tail, (which are two exceeding long ones, *viz.* five Palms, and very broad; and a third firſt alſo broad, but ending in very ſlender filaments) are ſupported by other ſmaller ones. The Legs and Feet are white: The Claws black, and, as in the precedent, notably ſharp and hooked.

§. XII.

* *A ſhort-tail'd Indian Sparrow of* Aldrovand, *Book* 15. *Chap.* 24.

THis Bird is leſſer than the two former, all over black: Which colour yet hath I know not what kind of blue and violet gloſs; as is uſually ſeen to happen in deep blacks. The Bill and Feet are of a fleſh-colour; the Claws black. The Eyes alſo black, but encompaſſed with a white circle.

§. XIII.

* *The ſhort-tail'd Italian Sparrow of* Aldrovand.

THe Bird (ſaith he) which you ſee here delineated, having a very ſhort Tail, called *Paſſerino*, that is a little *Sparrow*, is ſometimes taken in the Country about *Bologna*. Its whole body is of one colour, *viz.* yellowiſh: Yet its Breaſt and Belly are whiter than the other parts. Its Bill is of a deeper yellow.

§. XIV.

* *The rumpleſs black and red Indian Sparrow of* Aldrovand.

THe whole body, both above and underneath, as alſo the beginnings of the Wings are of a moſt lovely ſhining ſcarlet colour: The reſt of the Wings is black: But yet, if their feathers are ſpread out, ſomething of white appears in their ſides. The Feet alſo are black: Moreover, it hath along the Back two oblong, black ſpots, almoſt contiguous. The Bill for the proportion of the body ſmall, (for it is a thick-bodied bird for its bigneſs) and leſs alſo than in the common *Sparrow*, white where it is joyned to the head, elſe black, ſharp, and ſlender. It altogether wants a Rump.

§. XV.

* *The rumpleſs blue, red, and black Indian Sparrow of* Aldrovand.

THis Bird is longer than the former, but leſs corpulent, and of three colours, eſpecially, *viz.* red, blue, and black. The Head, Neck, and Breaſt, and all the lower parts are of a deep red colour. On the ſides of the Neck are two large contiguous ſpots of a ſemilunar figure and ſcarlet colour. The Wings are very long, black and blue about the ſides. The Legs ſhort and black. The Bill a little crooked, black, but white near the forehead.

All theſe Indian Sparrows are to us unknown: Aldrovandus *alſo himſelf ſaw only the pictures of them, not the birds themſelves. But Pictures of them* (*as* Pliny *rightly ſaith*) *fallacious, theſe deſcriptions cannot be thought to come near the exactneſs of ſuch as are taken from the birds themſelves.*

§. XVI.

The Mountain Sparrow, frequent in Stiria *and* Carinthia.

FRom the tip of the Bill to the end of the Claws it was by meaſure ſix inches long. Its Tongue was ſomething cloven: The *Irides* of its Eyes between grey and hazel-coloured. Its Chin was black: It had alſo on both ſides a black ſpot about the Ears. A border of white compaſſes the Neck almoſt half way, and the ſpots about the ears. The Head of a dusky red. The outer Webs of the feathers on the middle of the Back are red, the inner black. The Rump is of a yellowiſh aſh-colour. The Breaſt

Breaſt and Belly of a ſordid white. Of the ſecond and third row of Wing-feathers all but the eighth or tenth outmoſt have white tips. The ſmall feathers on the baſe or ridge of the Wing are red, as are alſo the outmoſt edges of the reſt. The number of quil-feathers is eighteen. The Tail is two inches and a quarter long, made up of twelve feathers, of almoſt equal length. The Bill is black, more than half an inch long; at the corners of the Mouth and lower Chap yellow. It had a large Craw, full of ſeeds: The muſcles of the Gizzard were not very thick. The Teſticles great and white.

The deſcription of the *Mountain Sparrow* in *Aldrovand* agrees indifferently well with ours, ſave that he attributes to it two black ſpots beſide the Eyes; one of which is wanting in our bird; at leaſt Mr. *Willughby* mentions only one.

We ſaw abundance of theſe birds in the mountainous Countries of *Stiria* and *Carinthia*, as we travelled from *Vienna* to *Venice*.

§. XVII.

* *The Wood-Sparrow of* Aldrovand, *Book* 15. *Chap.*16.

IN bigneſs it exactly correſponds with the common *Sparrows*. Its Bill from yellow inclines to white; and is (as I may ſo ſay) exactly *Sparrow*-like. The crown of its head, as in the precedent *Mountain Sparrow*, is of a ruſty colour, inclining to Vermilion. The circumference of the Eyes white, the *Iris* yellowiſh, the Pupil black. From Chin to Tail it is of an aſh-colour, but the * extremities of the feathers incline to red. The Chin and underſide of the Neck are croſſed with continuous, tranſverſe, blackiſh lines; whereas in all other *Cock-Sparrows* we ſuſpect, nay, we poſitively affirm, that they are wholly black. The Back, Tail, and Feet are of a dusky ferrugineous, ſave that the tips or ends of the feathers are altogether yellow. The Wings are of the ſame colour, but the firſt feathers, which cover their * ridges end in a notable white.

* I ſuppoſe he means the ends or tips.

* *coſtæ.*

§. XVIII.

* *The Braſilian Sparrow, called* Guiranheemgatu *by* Marggravè.

IT is of the bigneſs of a *Sparrow*. The Head above is of a pale yellow, as is the Throat: The Neck, Breaſt, and lower Belly of a deeper yellow. The Wings are mixt of green and yellow, and diſtinguiſhed with dusky, as is alſo the Tail. The Eyes and Bill black: The Legs dusky. The Cock of this kind ſings rarely well, like a *Finch*. The Hen is of the ſame bigneſs, covered with Sparrow-like feathers, ſings not, but cries *Tſchrip*, *tſchrip* like a *Sparrow*.

Chap. VI. §. I.

The Chaffinch: Fringilla, Σπίζα *Ariſtotelis*.

IT is ſomething leſs than a *Houſe-Sparrow*, weighing not a full ounce. Its Bill is ſharp, ſtrong, white underneath, above and toward the tip dusky: The lower Chap * equal to the upper: The Tongue cloven and rough: The *Irides* of the Eyes hazel-coloured: The Ears great.

* Underſtand it in length.

The Head in the Cock is blue, but the feathers contiguous to the Noſthrils black. The Back is reddiſh with a mixture of aſh-colour or green: The Breaſt red; the Belly under the Tail white.

The colours of the Hen are not ſo bright and lively. But its Rump is green: Its Back not ſo red: The Belly from red inclines to a dirty kind of green. The Breaſt alſo is of a duller colour.

The Quil-feathers in each Wing, in number eighteen, all but the three firſt, or outmoſt have their bottoms and interiour Webs white; their exteriour edges yellowiſh, or rather green. In the Cock the ſmall feathers inveſting the ridge or *baſis* of the Wing are blue. Above in each Wing is a remarkable white ſpot: Then after an interſtice of black ſucceeds a long white fillet, beginning from the fourth quill, and after

after the tenth continued through the tops of the covert-feathers. That part of this white fillet which paſſes through the tips of the coverts is tinctured with yellow.

The Tail is two inches and an half long, and made up of twelve feathers, of which the outmoſt on each ſide have their bottoms, and alſo their tops on the outſide the ſhaft black, their middle part white. The next to theſe have leſs white, *viz.* only near the top, and on the outſide the ſhaft: The three ſubſequent on both ſides are black: the two middlemoſt cinereous with greeniſh edges.

The Liver is divided into two Lobes, the right being the biggeſt. The Stomach not very fleſhy. The outmoſt Toe in each foot, as in other ſmall birds, grows to the middlemoſt at bottom.

This bird ſometimes varies in the colour of its feathers. For *Geſner* affirms, that himſelf had ſeen a *Chaffinch* all over white: And *Aldrovandus* deſcribes two others, one whoſe whole body from white declined to yellow: Another that was partly yellowiſh, and partly blackiſh.

They are (ſaith *Aldrovandus*) birds of paſſage: They love moderate cold, but are offended by immoderate. But with us in *England* they fear no cold, abiding here all Winter, be the weather never ſo ſharp: Neither is there any Bird more frequent in all parts of this Land, excepting perchance the *Lark*, the *Sparrow*, and the *Yellow-hammer*.

§. II.

The Bramble or Brambling: Fringilla montana ſeu Montifringilla, Ὀρεοσπίζη, *Ariſt.*

IN weight and bigneſs it agrees with the precedent. Its Bill is thick, ſtrong, ſtreight, from a broad baſe diminiſhing into a ſharp point, almoſt like a Cone or Funnel; in ſome birds wholly black, in others black at point, and yellow at bottom. Its Tongue like the *Chaffinches*; the upper Chap of equal length with the lower, its ſides ſtrong and thin'd into ſharp edges. [The Bill of the Female hath no part yellow.] Its Feet of a pale dusky colour: The outer Toe joyned to the middle below, as in other ſmall birds. From the head to the middle of the Back the colour in the Cock is like that of a *Starling*, a ſhining black, the edges of the feathers being of a reddiſh aſh-colour. The lower part of the Back is white. The Throat is of a yellowiſh red; the Breaſt white; the feathers behind the Vent reddiſh.

In the Female the Head from red or dusky inclines to cinereous: The Neck is aſh-coloured: The feathers of the Back have their middle parts black, their borders of that ſame reddiſh aſh-colour. The Throat is not ſo red as in the Cock. Within the ridge of the Wing it hath leſs yellow, and without no Orange colour. In brief it is every where more diſcoloured.

The interiour quil-feathers of the Wings are red, the inmoſt of all black, with red edges. Beginning from the fourth, ſeventh, or eighth of the ſubſequent feathers have a white ſpot on the outſide their ſhafts, by the tips of the feathers of the ſecond row. Underneath alſo their exteriour edges are whitiſh; elſe the quil-feathers are all black. The Plumage near the baſe of the Wing underneath is of a lovely yellow, above of an Orange colour.

The Tail is four inches $\frac{3}{8}$ long, compounded of twelve feathers, of a black colour, but the exteriour Web of the outmoſt feather on both ſides is white, and ſometimes alſo the interiour. The tips and edges of the two middle feathers are of a reddiſh aſh-colour.

At *Venice* we found great numbers of theſe birds in the Poulterers ſhops in Winter time; whence we infer that they are common in the Country thereabouts at leaſt in that ſeaſon of the year. They are found alſo in *England*, but more rarely.

Theſe birds alſo ſometimes vary in their colours. Hence in *Aldrovandus* we have three figures and deſcriptions of *Montifringillæ*: Of which that in the ſecond place is of a paler colour, and hath its head wholly white. The third is altogether like the firſt, ſave that under the Bill it hath no black: And beſides that ſecond yellow ſtroak which is in others, in this was far more conſpicuous.

§. III.

§. III.

The great pied Mountain-Finch or Bramlin: Montifringilla calcaribus Alaudæ ſeu major.

IT is equal in bigneſs to the common *Lark*, from the tip of the Bill to the end of the Tail being five inches and a quarter long; and between the extremes of the Wings ſtretched out twelve and three quarters broad. Its Bill is half an inch long, of a yellow colour, with a black tip. The end of the Tongue is divided into filaments. The top of the Head of a fulvous red, darker toward the Bill. [Mr. *Johnſon* attributes to the Head and upper part of the Neck a dusky red or cheſnut colour.] The upper ſide of the Neck, the Rump and ſides are alſo red: So is the Breaſt, but paler, the reſt of the under ſide, Throat, Belly, Wings, *&c.* is white. The underſide of the Neck, the Back and ſcapular feathers are elegantly variegated with black and a reddiſh aſh-colour; the middle part of each feather being black, and the outſides red. The black ſpots appear of a triangular figure. In the upper part of the Wings and bottom of the Back there is more of red.

Each wing hath eighteen prime feathers, of which the eight outmoſt or longeſt are black; yet their bottoms, as far as they are hidden by the ſecond row, except the outer edge of the outmoſt feather are white: Moreover, the very tips, or rather edges of the tips of all excepting the two outmoſt, are white. The ſeven next, which take up the middle part of the Wing, are wholly white, ſave that near the tip on the outſide each feather hath an oblong black ſpot. The remaining three or four next the body are black, having their uppermoſt edges red. All the covert-feathers of the Wings, excepting thoſe next the body, and two or three, which make up the baſtard Wing, are white; thoſe excepted being black. But Nature (as I ſee) obſerves not an exact rule in the colours of this birds Wings: For in the bird deſcribed by Mr. *Willughby* the covert-feathers of the black quils were for the moſt part black, of the white ones white: Yet in general in all birds that we have ſeen there were large white ſpaces in each Wing. The Tail is ſomewhat forked, two inches and an half long, made up of twelve feathers, the two outmoſt whereof on each ſide being wholly white, ſave a very little of the outer edge toward the tip, which is black, more in the outmoſt, leſs in the next. The outward Web of the third on each ſide almoſt from the top quite down to the bottom is white: The remaining ſix are black, having only their edges about their tips white. The Legs, Feet, and Claws are cole-black. The back-Claw or Spur is longer than the reſt, as in *Larks*, of about half an inch. The outmoſt Toe for a good ſpace from the divarication is joyned to the middle one, as in moſt ſmall birds.

This Bird Mr. *Willughby* found and killed in *Lincolnſhire*. Mr. *Johnſon* ſent us the Bird it ſelf, and the deſcription of it out of the Northern part of *Yorkſhire*.

The ſame Mr. *Johnſon* ſent alſo the deſcription of another bird of this kind by the name of The *leſſer Mountain-Finch* or *Bramlin*, together with the caſe of the Bird; which by the caſe I took to be only the Female of the precedent, he from its difference in bigneſs, place, and other accidents rather judges it a diſtinct ſpecies. I ſhall therefore preſent the Reader with his deſcription of it.

It is of the bigneſs of a *yellow Finch*, hath a thick, ſhort, ſtrong Neb, black at the very point, and the reſt yellow. All the forehead of a dark cheſnut, almoſt black, growing lighter backwards, about and under either Eye lighter cheſnut: The back of the Neck aſh-coloured, which goes down the Back to the Tail, but there more ſpotted with black. Under the Throat white, but Breaſt and Belly daſht or waved with flame-colour; at the ſetting on of the Wing grey. The firſt five feathers blackiſh brown, all the reſt white, ſave a little daſh of brown near the point of each feather. The Tail conſiſts of twelve feathers, the three outmoſt on either ſide white, ſave a little ſmall daſh of dark brown: The reſt dark brown. The Feet perfectly black. The hind-claw as long again as any of the reſt.

Chap. VII.

* *The Braſilian* Sayacu *of Marggrave.*

TO what tribe of ſmall birds this is to be referred we do not certainly know: But becauſe the Author ſaith it is of the bigneſs of a *Chaffinch*, we have placed it here. The whole body is covered with feathers of a colour mingled of cinereous and Sea-green: But in the Wings and Back the Sea-green is ſo mixt that, expoſed to the Sun, they ſhine marvellouſly. The Bill is black; The Eyes alſo wholly black.

Chap. VIII.

* *The Braſilian* Tijeguacuparoara *of Marggrave.*

IT is of the bigneſs of a *Lark*; hath a ſhort, thick Neb, dusky above, white underneath. The top and ſides of the Head, the Throat, and lower ſide of the Neck are covered with yellow feathers, ſpotted with ſanguine. [This Bird was a Female, for in the Male the Plumage of theſe parts is wholly ſanguine.] The upper ſide of the Neck and whole Back with aſh-coloured ones, *ſomewhat ſhaded: The Wing-feathers are dusky, with white borders: As alſo the Tail: But the covert-feathers of the Wings are cineous. The Back for the moſt part, excepting the ends of the feathers, the ſides of the Neck, the Breaſt, and whole Belly, with the Thighs are covered with white feathers. The Legs and Feet are dusky: Four Toes in each placed after the uſual manner. It hath black Eyes.

* The words are *umbra aliquatenus mixtas*, by which perchance the Anthor might mean, *mixt with a little umber-colour.*

Chap. IX.

* *The Braſilian* Guiraperea *of Marggrave.*

THis is alſo of the bigneſs of a *Lark*: Hath a ſhort, thick, black Bill. The upper part of the Head and Neck, the whole Back, and lower Belly have feathers of a dark yellow colour, like yellow Wax: The lower ſide of the Head and Neck, the Throat and Breaſt black ones: Of which colour there are alſo a few in the Belly intermingled with the yellow. The Tail is two inches long, and reaches further than the Wings. Both Tail and Wings are made up of dusky and blackiſh feathers, every one of which hath its ſide-edges of a *Sea-green*, ſo that the Wings appear brown, ſtraked with green: And in like manner the Tail. The Thighs are of a Wax-colour: The Legs and Feet of a dark grey or aſh-colour. It hath four Toes diſpoſed according to the uſual manner, armed with black Claws.

Chap. X. §. I.

The Goldfinch, or Thiſtle-finch; Carduelis.

THis Bird, in the opinion of *Aldrovandus* and *Bellonius* is the Χρυσομίτρης of *Ariſtotle*, by the later *Greeks* called Ἀκανθὶς. It is leſs than the *Houſe-Sparrow*; of an ounce and half weight; five inches and an half length from Bill-point to Tail end; nine and a quarter breadth between the utmoſt tips of the Wings ſpread out. Its Head for the bulk of the body is of the biggeſt: Its Neck ſhort; Bill white, but in ſome birds black at the very point, little more than half an inch long, thick at the head, ending in a ſharp point, of a Conical figure: Its Tongue ſharp: Eyes hazel-coloured. A ring of ſcarlet-coloured feathers encompaſſes the baſis of the Bill. From the Eyes to the Bill on each ſide is drawn a black line. The Jaws are white:

The

The top of the Head black, from which a broad black line, produced on both ſides almoſt to the Neck, terminates the white. The hinder part of the Head is white. The Neck and forepart of the Back are of a fulvous or reddiſh aſh-colour. The Rump, Breaſt, and ſides are of the ſame colour, but paler. The Belly white. The Wings and Tail black; Yet the tips of the principal feathers in both are white. Beſides, the Wings are adorned with a moſt beautiful tranſverſe ſtroak of yellow. If you exactly view each quil-feather, you will find the firſt or outmoſt wholly black; all the reſt tipt with white; and beſides the lower half of the outward Web of every feather from the ſecond to the eleventh incluſively of an elegant yellow, which together make that yellow bed acroſs the Wing we now mentioned; whence this bird is ſuppoſed to be called Χρυσομίτρης. The interiour covert-feathers of the Wings are alſo yellow. The Tail is two inches long, compoſed of twelve black feathers, of which the two outmoſt have a great white ſpot on their tips; the next a leſſer; The third none; the fourth again a little one, and the fifth a greater.

The Legs are ſhort; the Back Toe ſtrong, armed, with a Claw longer than the reſt. The lower of the outer foretoe grows faſt to that of the middle toe. The blind Guts, as in other ſmall birds, are very ſhort and little. It hath alſo a Gall-bladder.

The Hen-bird hath a ſmaller note than the Cock, and ſings not ſo much, and the feathers on the ridge of the Wing are dusky or cinereous, whereas in the Cocks they are cole-black: and theſe (ſaith *Aldrovandus*) are conſtant and infallible marks by which the Sexes may be diſtinguiſhed.

Goldfinches are gregarious birds, for the elegancy of their colours and ſweetneſs of their ſinging every where well known and highly eſteemed. They are of a mild and gentle nature, as may even thence appear, that preſently after they are caught, without uſing any art or care, they will fall to their meat and drink; nor are they ſo ſcared and affrighted at the preſence of a man, as to ſtrike their Bills and Wings againſt the ſides of the Cage, as moſt other birds are wont to do. Nor are they very much troubled at their captivity and impriſonment in a Cage: Nay, if they have continued there a good while, they like it ſo well, that though you let them looſe, they will not fly away, as (ſaith *Aldrovand*) I my ſelf have obſerved, to whom I refer the Reader. They feed upon the ſeeds of Thiſtles in Winter times, from whence they took their name, and not of Thiſtles only, but of Teaſel, and Hemp, and Dock, and Poppy, as *Albertus* tells us. The *Goldfinch* kept in a Cage will with its Bill draw up a little pot of water hanging upon a ſtring, and putting its foot ſometimes under the ſtring when it can reach the Pot, will drink out of it, and quench its thirſt, which other ſmall birds alſo will learn to do. Beſides that little Thiſtle-finch (ſaith *Turner*) adorned with a golden fillet, I know another ſpinivorous bird of a green colour, which, in like manner as the *Goldfinch*, out of two pots, one going up, the other mean time going down, will take meat out of the one, and drink out of the other. The ſame doth alſo the *Millet-bird*, which our Country men call a *Linnet*. The ſame likewiſe will imitate any tune you whiſtle to it. So then not only that bird which is in Greek called Θρᾶυπς, and in *Latine* by *Gaza* rendred *Carduelis*, will do what you bid it, and uſe its Bill and Feet for a hand, but many others alſo. All which things (ſaith *Aldrovandus*) daily experience proves to be moſt true. It builds its Neſt in thorns, and trees. *Geſner* affirms, that it lays ſeven Eggs, *Bellonius*, eight: The difference is not great, and it may lay ſometimes the one, ſometimes the other number.

The *Goldfinch*, by reaſon of age, ſex, or other accidents, varies ſometimes in its colours. *Aldrovandus* ſets forth four varieties: 1. One not full grown, which had no red at all on its Head: 2. One with white Eye-lids: 3. A white one with a red head: 4. A whitiſh one, which yet on the forepart of the Head and under the Chin had ſomething of red. Beſides which he deſcribes alſo a bird of kin to the *Goldfinch*, (which perchance was a baſtard kind) in theſe words.

A Bird of kin to the Goldfinch.

In bulk of body it exceeds a *Goldfinch*, being equal to a *Chaffinch*. A circle of a lively Saffron colour encompaſſes the Bill. Its Eyes are like a *Goldfinches*, but bigger. Its Head, except the Saffron ring now mentioned, and its Back are of the ſame colour, *viz.* blackiſh. The Breaſt is of a black green, as are alſo the ſmall feathers, covering the ridges of the Wings: Whoſe quil-feathers are black, and much more varied or diſtinguiſhed with white, than in other birds of this kind. That part which in other *Thiſtle-finches* is yellow, in this is of a pale colour. The Tail of as deep a black as in others; but in the two outmoſt Tail-feathers on each ſide when extended appeared ſomething of white; which otherwiſe, when the Tail was cloſed, was hidden, and not expoſed to view. The whole Belly from cinereous inclined to dusky.

§. II.

* *The Braſilian* Jacarini *of Marggrave.*

IT is of the bigneſs of our *Goldfinch:* Hath a thick, aſh-coloured Bill: Aſh-coloured Legs and Feet, with four Toes ſituate after the uſual manner. The whole Body is covered with black feathers, but ſhining with a gloſs like poliſhed ſteel. The Wings withinſide are white. The Eyes are blue, and behind each a large hole inſtead of Ears. This Bird being of the bigneſs of a *Goldfinch*, and having a Bill not unlike it, not knowing better to diſpoſe of it, I have inſerted in this Chapter, although it agrees not in colour either with the *Goldfinch*, or any other *European* Bird, that I know, of this bigneſs.

Chap. XI.

Of the Linnet.

§. I.

Of the Linnet in general.

THe Characteriſtic notes of this kind are, 1. A ſize of body ſomething leſs than a *Chaffinch:* 2. A teſtaceous or earthy colour, mixt of cinereous and dusky or brown: 3. A Tail a little forked: 4. A peculiar colour of the outmoſt feathers of the Tail, *viz.* brown, with white borders or edges: 5. A ſweet note. Of *Linnets* we have obſerved four ſorts in *England:* 1. The common: 2. The greater red: 3. The leſſer red. 4. The Mountain *Linnet.*

§. II.

The common Linnet: Linaria vulgaris.

IT weighs about an ounce: From the tip of the Bill to the end of the Tail being half a foot long; between the tips of the Wings ſpread forth ten inches broad. Its Bill is half an inch long, thick, ſtrong, black above, white underneath. The Tongue is as it were cut off: The Noſthrils round: The Head particoloured of cinereous and black; the Back of black and reddiſh, the middle part of each feather being black, the edges or outſides in the Head cinereous, in the Back reddiſh. The Breaſt is white: The lower Belly about the Vent yellowiſh. The region of the Craw or bottom of the Gullet is of a lovely red, the edges of the feathers being yellowiſh. Each Wing hath eighteen quil-feathers, all black but the edges, which in the exteriour are whitiſh, in the interiour red. The foremoſt feathers of the ſecond row are black, the edges of the interiour, or thoſe next the riſe of the Wing red. The leſſer covert-feathers about the ridge or baſe of the Wing are red. The Tail is ſomewhat forked, its two outmoſt feathers being two inches and a quarter long; the middle only two: Of the middle two the borders or edges are red, of the reſt white. The Tail conſiſts of the uſual number of twelve feathers. It delights to feed upon Line-ſeed, whence *Geſner*, in imitation of the *French*, (who call it *Linote*) impoſed on it the name of *Linaria.* It ſeems not to have been deſcribed or mentioned by the Ancients: Howbeit, *Bellonius* makes it to be the *Ægithus* of *Ariſtotle.* It is kept in Cages with us for the ſweetneſs of its ſinging; wherein, in my judgment, it excels all other ſmall birds. It feeds upon Canary ſeed, Panic, Millet (whence alſo it is by ſome called *Miliaria*) Rape-ſeed, Cole-ſeed, and Hemp-ſeed. But whatever ſeed it eats it firſt * decorticates it with its Bill, that it may feed only on the pulp. But Hemp-ſeed (that we may note that by the by) makes birds that feed upon it ſo fat that it either kills them, or takes from them all courage and liſt to ſing. *Olina* ſaith, that the *Linnet* builds in trees that are not very tall, and lays three or four Eggs. We have obſerved it to build in black or white thorn buſhes, or Furze-buſhes. Mr. *Willughby* aſcribes to the Feet of this bird an obſcure dusky or blarkiſh colour; *Olina* a middle colour between fleſh-colour

* *i. e.* hulls or pills it.

colour and white. Perchance the Feet of the younger birds are paler, of the old darker coloured: Or those of the Cock blacker, the Hen-birds whiter. Mr. *Jessop* sent us a Linnet of the common sort with Feet perfectly black, but that was extraordinary.

An Addition to the History of the Linnet out of our English Writer of Singing Birds.

YOu may take the young ones out at four days old, if you intend they shall learn to whistle or hear any other birds song: For then being so young they have not the old birds song, and are more apt to take any thing than if you suffer them to be in the Nest till they are almost quite fledg'd. You must be sure when you take them out so young, to keep them very warm, and to feed them but a little at a time. Your meat must be Rape-seed soaked, and then bruised, mingled with full as much soaked white-bread. You must make fresh every day; for if it be sour, it immediately makes them scour, and not long after die. You must not give them their meat too dry, for if you do it will make them Vent-burned; and that is as bad as if they scoured. If you intend to whistle to them, do it when you feed them. For they will learn very much before they can crack hard seeds. So hang them under any bird you intend they shall learn his Song. I have known several that have been taught to speak.

You may know the Cock-Linnet by these two marks: 1. The Cock is much browner on the Back and pinion of the Wing than the Hen. 2. By the white of the Wing. Take your young Linnet when the Wing-feathers are grown, and stretch out his Wing, holding his body fast with the other hand (otherwise I have known them by a sudden jerk to break their Wings) and then observe the white upon the fourth, fifth, and sixth feather, if it be glossie and glistering, and the white goes close to the quill, this is a certain sign of a Cock.

The Linnets diseases and their cures.

1. This Bird is sometimes troubled with melancholy, and then you will find the end of his Rump to be very much swelled; which you must prick with a Needle, and let out all the corruption, squeezing it out very well with the point of the Needle; then anoint him with the ointment made of fresh butter and Capons grease, and feed him for two or three days with Lettice, or Beet seeds, and the leaves also: And you may give him the seeds of Melons chopt in pieces, which he will eat very greedily; and when you find him to mend take the Melon seeds away, and give him his old diet again: Put into his water two or three blades of Saffron and white Sugar-candy for a Week or more, till you perceive the bird to be wholly recovered.

2. The disease this Bird is most troubled withal is a scouring; of which there are three sorts: The first very thin, and with a black substance in the middle, which is not very dangerous; for I have known many sing very strong and lavish when they have had this scouring in a very violent manner. The second is between a black and a white, but not so thin as the other, but very clammy and sticking. This is worse than the former. It is recovered by giving your bird some Melon-seed shred, and Lettuce seeds and Beet seeds bruised, and in his water some Liquorice and white Sugar-candy, with a little flour of Oatmeal. You must be diligent at the first to observe him when he is sick, that so he may have a stomach to eat: For in two or three days his stomach will be quite gone, and then it will be hard recovering him again. The third and worst sort of scouring is the white clammy scouring, which is dangerous and mortal, if not well looked after at the first. This is occasioned by bad seeds, and many times for want of water. If it be not taken at the first appearance it immediately causeth him to droop, and fall from his meat, and then all medicines are useless. First, give him Flax-seeds, taking away all other seeds; then give him Plantain-seeds, if green, otherwise they will do him no good: For want of Plantain-seeds give him some of the Leaves shred small, and some Oatmeal bruised, with a few crums of bread: And in his water give him some white Sugar-candy and Liquorice, with a blade or two of Saffron.

To avoid the peril of ſcouring *Olina* adviſes to let him have always a piece of chalk in his Cage.

§. III.

The greater red-headed Linnet: Linaria rubra major.

THis is ſomething leſs than the *common Linnet:* Its Bill ſhort, thick, of a Conical figure like the *Chaffinches*, the upper Chap black, the lower at the baſe white: The Tongue ſharp, and as it were cut off, as in the *Chaffinch:* The Noſthrils round: The Eyes hazel-coloured. The crown of the head adorned with a red or ſanguine colour, but not very bright and ſhining. The reſt of the Head and Neck round about are cinereous. The Shoulders, Back, and covert feathers of the Wings are red. The Breaſt is tinctured with red. The ſides under the Wings are of a yellowiſh red or ſpadiceous colour. The outmoſt quil-feathers of the Wings are black, the inner dusky. The exteriour edges of the eight outmoſt, excluding the firſt, are white, the white from the bottom towards the top extending it ſelf in breadth in every feather more and more in order, till in the ninth feather it reaches almoſt to the tip. Theſe white edges in the Wing complicated concur to make up a white ſpot externally conſpicuous. From the ninth the tips of the ſixth or ſeventh ſucceeding are blunt and indented. The interiour margins of all the quil-feathers are white, and the tips alſo of thoſe toward the body, or ſetting on of the Wing. The Tail is ſomething forked, two inches and an half long, made up of the uſual number of twelve feathers; all ſharp-pointed, and of two colours, both edges, as well inner as outer, being white, but the outer more; which colour in the extreme or outmoſt feathers takes up almoſt half the breadth of the exteriour Web: In the reſt it grows narrower and narrower by degrees to the middlemoſt, which are almoſt wholly black, the very extreme edges only remaining white. The feathers incumbent on the Tail in the middle along the ſhaft are dusky, their outſides being white. It hath ſmall Legs and Feet of a reddiſh dusky colour, but not perfectly black; black Claws, the hinder the biggeſt, the two outer Claws equal one to the other: There is alſo the like coheſion between the outmoſt and middle toes, as in other birds.

In the Female neither is the Back bay, nor the crown or Breaſt red; but the Back dusky, with a tincture of green, the Breaſt of a dirty yellow, varied with dusky ſpots. The other notes agree in both Sexes.

It weighs five drachms, from tip of Bill to end of Tail is five inches and an half long; to the end of the Claws but five. A line of nine inches and a quarter meaſures the Wings ſtretcht out. It is common on the Sea-coaſts.

§. IV.

The leſſer red-headed Linnet: Linaria rubra minor.

THis is leſſer than the precedent. The Back coloured like the *common Linnet:* The forehead adorned with a remarkable ſhining red ſpot: The Bill like that of the greater *red Linnet*, but leſs: The Breaſt red; the lower Belly white. The prime feathers of the Wings and Tail dusky: The Tail about two inches long, and ſomething forked. The outmoſt borders or edges of the Wing and Tail-feathers round are white.

The Legs and Feet are dusky; the Claws black, and long for the bigneſs of the bird; but the Legs very ſhort. The like coheſion or adnaſcency of the outmoſt and middle toe at bottom, as in other ſmall birds.

In this kind the Female alſo hath a ſpot on her head, but more dilute than that of the Cock, and of a Saffron colour.

This Bird differs from the precedent *red Linnet* in many particulars. 1. In that it is leſs: 2. That it hath a leſſer and ſharper Bill: 3. That the Hen agrees with the Cock in the ſpot on its head, though it be paler: 4. That the Legs and Feet in this are blacker: 5. That the border of white about the tail-feathers is narrower: 6. That the tips of the ſecond row of Wing-feathers being white make a tranſverſe white line croſs the Wing. Laſtly, that this Bird is gregarious, flying in flocks, not that.

Aldrovandus deſcribes two ſorts of *red Linnets*, neither of which agrees with either of ours in all points. See their deſcription in his *Ornithology*.

§. V.

§. V.

The Mountain Linnet: Linaria Montana.

THis was found by Mr. *Fr. Jeſſop* in the Mountains of the *Peak* of *Derbyſhire*, and ſent to us. It is twice as big as the precedent. The colour of its Head and Back is the ſame with that of the *common Linnet*; for the middle parts of the feathers of both are black, but the outſides or edges of thoſe on the Back red, on the Head cinereous. The middle parts of the feathers on the Throat and Breaſt are alſo black, but the edges whitiſh. Only the Rump is of a very fair ſhining ſcarlet or Orange-tawny colour. The edges of the middle quil-feathers of the Wings are white, as are alſo the tips of thoſe of the ſecond row. The Tail is two inches and an half long, conſiſting of twelve feathers, of which the two middle are all over of one uniform brown or dusky colour. Of the reſt, as well the outer as inner edges, are white: Theſe white edges in the outmoſt feathers are broader than in the reſt. Its Bill is like that of the precedent, *viz.* leſs for the proportion of its body than that of the ſecond ſpecies. The whole bird from Bill to Tail was ſix inches and an half long; to the Claws five and an half.

CHAP. XII.

The Siskin: Spinus ſive Ligurinus.

ITs Head is black. The upper ſide of its body, *viz.* Neck and Back are green. Yet the * ſhafts of the feathers on the Back are black; and the Neck being darker than the Back ſeems to partake ſomething of the colour of the Head. The Rump is of a greeniſh yellow: The Throat and Breaſt of a yellowiſh green: The Belly white: The feathers under the Tail yellowiſh, with oblong dusky ſpots in the middle down the ſhaft. The feathers alſo inveſting the ſides are ſpotted in the middle with brown. The Hen is paler and more diſcoloured. Her Throat and ſides under her Wings are white, the middle parts of the feathers being ſpotted with brown. The Head and Back are of a greeniſh aſh-colour, with brown ſpots in the middle. The Throat and Breaſt have leſs of green.

* This word is to be taken largely for the middle part about the ſhaft.

The Wings are croſſed by a broad line or bed of yellow. The Pinion-quill of the Wing is all over dusky, only the edges green. Of the nine following the outer Webs are green; the green part is widened by degrees in every feather, till in the laſt it take up half the length. From the tenth almoſt the lower half of each feather is yellow, the upper black. The exteriour covert-feathers of the Wings are black, the edges of the interiour green. The Tail conſiſts of twelve feathers, the two middlemoſt black: The reſt above half way of a moſt lovely yellow, with black tips. The uppermoſt tips of the feathers, as well in the Wings as in the Tail, are grey. The lower Mandible of the Bill hath an eminency or angle on each ſide, received in the upper. The Tongue is ſharp, horny at the tip, and channelled: The Eyes hazel-coloured. The outer and middle Toe have the like coheſion at bottom as in other birds.

It is kept in Cages for its ſinging: It is common in *Germany* and *England*. At *Vienna* in *Auſtria* they called it *Seiſel*, a name not much different from our *Engliſh Siskin*. In *Suſſex* it is known by the name of *Barley-bird*, ſo called becauſe it comes to them in *Barley*-ſeed time. All the Winter, and in the beginning of the Spring, it flies in flocks. Its differs from the two following birds, 1. In that it is a little bigger: 2. It hath a longer Bill: 3. A black Head; 4. A ſhorter Tail, more than half yellow: 5. A ſtrake or bed of yellow croſs its Wings.

Aldrovandus writes, that it ſeldom or never appears in cold Countries, as *France* and *England*, as *Bellonius* and others report: But we have by experience learnt the contrary. It is of a very mild nature, and not at all crafty, ſo that it is eaſily taken by any kind of engine or deceit.

This bird is called by *Ariſtotle* and the ancient *Greeks* Ἀκανθὶς, as *Aldrovandus* is of opinion. Σπίνος alſo is the name of a bird, ſuppoſed to be this, as well with the *Greeks* as with the *Latines*.

CHAP.

Chap. XIII.

Of the Canary-bird, out of Geſner, Aldrovandus, *and* Olina.

Canaria is an Iſland of the *Atlantic* Sea, on the left ſide of *Mauritania*, one of thoſe which the Ancients for the excellent temperature of the Air called *Fortunate*, ſo denominated from the multitude of great Maſtive Dogs, as *Pliny* out of *Juba* delivers. All thoſe Iſlands, which the Ancients called *Fortunate*, are now adays called the *Canaries*. Out of which in our Age are wont to be brought certain ſinging birds, which from the place where they are bred they commonly call *Canary-birds:* Others call them *Sugar-birds*, becauſe the beſt Sugar is brought thence. Of this bird we have thought fit to treat next after the *Siskin*, becauſe ſome have judged it to be a ſort of *Siskin*, as *Turner:* And in truth to look upon for colour and ſhape it is very like it. This bird *Geſner* from the relation of a friend of his thus deſcribes. It is of the bigneſs of the common *Titmouſe*, hath a ſmall white Bill, thick at baſe, and contracted into a ſharp point: All the feathers of the Wings and Tail being of a green colour: So that it differs little from thoſe ſmall birds, which our Country men call * *Citrils*, or thoſe they call *Ziſels*, and the *Italians*, *Ligurini*, ſave that it is a little bigger than either of thoſe, liker in ſhew or outward appearance to this, ſomething greener than that. So far *Geſner*. Between the Cock and Hen-bird I have obſerved this difference, that the Breaſt, Belly, and upper part of the Head, adjoyning to be Bill, are more yellow in the Cock than in the Hen. This is common to both Sexes to be fleſhy, and not fat. Of its ſinging the ſame *Geſner* hath recorded as followeth. It hath a very ſweet and ſhrill note, which at one breath continued for a long time without intermiſſion, it can draw out ſometimes in length, ſometimes raiſe very high, by a various and almoſt muſical inflexion of its voice, making very pleaſant and artificial melody. The ſound it makes is very ſharp, and ſo quavering, that ſometimes when it ſtretches and exerciſes its little throat and Chaps, whiſtling with all its force, it vehemently ſtrikes, and even deafens the Ears of the hearers with its ſhrilneſs. Many are delighted with this kind of its ſinging, many alſo are offended, ſaying, that they are aſtonied and deafned by it. It is ſold every where very dear, both for the ſweetneſs of its ſinging, and alſo becauſe it is brought from far remote places with great care and diligence, and but * rarely; ſo that it is wont to be kept only by Nobles and great men. But if any one be taken with the melody of theſe Birds, let him buy thoſe which have long Tails and ſmall Bodies. For it is found by experience that by how much leſs they are, by ſo much are they more canorous. But the great ones ſhut up in Cages turn their heads round about and backward, and are not to be eſteemed genuine or right bred *Canary Birds*. Of this ſort there are brought from the Iſlands *Palma* and *C. Verde*, which they call fools, from that motion of their head, which is proper to fools. They are fed with *Canary-ſeed*, wherein they take great pleaſure, which therefore is wont to be brought together with them out of the ſame Iſlands. *Geſner* from the relation of his friend writes, that they are fed with the ſame food with the *Siskin* and *Citril*; *viz.* Line ſeed, and Poppy ſeed, and ſometimes alſo Millet: But particularly, that they delight in Sugar and the Sugar-cane, as alſo in that ſort of Chickweed or Mouſe-ear, which they commonly call Henbit. For he affirms, that by this they are preſently provoked to ſing. This ſort of birds is wont to be infeſted with certain tumours or kernels in its head; which I take to be a kind of *Atheromata:* They are to be anointed with Butter or the fat of Hens till they ripen, then they are to be opened, and the matter dexterouſly preſſed out, and again anointed till they be perfectly whole. Sometimes alſo they happen to be troubled with Lice: In which caſe it will be of advantage to ſprinkle them often with Wine. For ſo thoſe Vermine will be killed, and they become ſtronger to overcome that trouble. Thus far *Aldrovandus*.

* *Citrinella* or *Citrina*.

* Now adays there be many of them brought over; nor are they ſold ſo dear but that even mean perſons can afford to buy and keep them.

There are alſo found (ſaith *Olina*) of this ſort of birds in the Iſland *Ilva* a degenerate kind, deſcended originally from true *Canary-birds*, which were brought over from the *Canary* Iſlands in a certain Ship bound for *Ligorn*, that was caſt away near this Iſland, and after the ſhipwrack eſcaped, and ſaved themſelves in this Iſland; and afterwards propagated their kind here, breeding and multiplying greatly. But the difference of place hath wrought ſome change in the external figure of this Bird. For theſe ſpurious Birds have black Feet, and are more yellow under the Chin than the genuine *Canary-Birds*.

Additions

Additions to the History of the Canary bird out of a late English Writer concerning singing Birds.

Canary birds (he saith) of late years have been brought abundantly out of *Germany*, and are therefore now called *German* birds: And these *German* birds in handsomness and song excel those brought out of the *Canaries*.

The Cock of this kind is never subject to be fat: For his high mettle, and lavish singing will hardly suffer him to maintain flesh on his back, much less fat.

How to chuse a Canary-bird.

Let him be a long bird, standing streight and not crouching, but sprightly, like unto a *Sparrow-hawk*: standing with life and boldness, and not subject to be scareful. Before you buy him, hear him sing in a single Cage; so you may be sure not to be cheated with a Hen for a Cock, and may please your fancy in his singing. He that hath most variety of notes, and is the longest song-bird is by most accounted the best.

How to know if he be in health when you buy him.

If he stands up boldly, without crouching or shrinking his feathers, if his Eyes look chearful, and not drowsie; and he be not apt to clap his head under his Wing, these are good signs of a healthful bird: But the surest is to observe his dung; which when he is in perfect health lies round and hard, with a fine white on the outside, and dark within, and will quickly be dry. The larger the birds dung is, I hold it the better, so it be long, round, and hard. A Seed-bird very seldom dungs too hard, except it be very young. If he bolts his tail like a *Nightingale* after he hath dunged; or if his dung be very thin, or if it have only a slimy white, with no blackness in it, the bird is not healthful.

Of the ordering of Canary-birds, which you intend for breeding, in building and breeding.

First, make a convenient Cage, or prepare a room fit for that purpose: You must be sure to let it have an out-let toward the rising of the Sun, where you must have a piece of wire, that they may have egress and regress at their pleasure. When you have prepared a convenient Room, then set up in the corners of it some Besoms, either Heath or Frail, opening them in the middle: If the Room be pretty high you may set two or three brooms, one under another; but then you must set partitions with boards over every broom; otherwise the birds will dung upon one anothers heads; and also they will not endure to see one another so near each others Nest, for the Cock or Hen will be apt to fly upon a Hen that is not matcht to them, when they see them just under their Nest, which many times causes the spoiling of their Eggs and young ones.

2. You must cause something to be made so convenient, and of such bigness as may hold meat for some considerable time, that you may not be disturbing of them continually, and a convenient Vessel for water also. Let your place where you intend to put your seeds be so ordered that it may hang out of the reach of the Mice, for they will destroy all the Canary seeds, and so consequently way starve your birds.

3. You must prepare some stuff to build withall of several sorts of things, as Cotton-wool, small dead grass, *Elks* hair [this is hard to get in *England*] and earth-moss. You must dry it before you put them together: Then mingle them all, and put them up in a little Net like a Cabbage-net, hanging of it so that they may with conveniency pull it out. You must set Pearches all about the Room, and, if big enough, set a tree in the middle, that so they may take the more pleasure. You must proportion your birds according to the bigness of your Room: Rather let it be under-stocked than over: for they are birds that love liberty.

4. When you perceive them begin to build and carry stuff, give them once a day, or in two days at least, a little greens and some Loaf-sugar, for that will cause a slipperiness in the body, that so the Eggs may come forth without injuring the birds; for many times the Hen dies in laying her first Egg: Which will be a great loss, both in losing the first brood, and unpairing the Cock. If this happens, and you have but

few

few pairs in your breeding place, take out the ſingle Cock, and match him, and put him in again: If many, it is adviſable to let your Cock alone, till you draw all your birds out to part them; becauſe it will be hard to find out the ſingle Cock, and as hard to take him when found.

5. When you find that they have built, take away the Nets that have the breeding-ſtuff in them. They breed moſt uſually three times in a year, begin in *April*, and breed in *May* and *June*, and ſometimes in *Auguſt*, which is not very uſual, neither here, nor in *Germany*.

How they breed them in Germany.

Firſt, they prepare a large Room, and build it in the likeneſs of a Barn, being much longer than broad, with a ſquare place at each end, and ſeveral holes at each end, to go into thoſe ſquare places. In thoſe out-lets they plant ſeveral ſorts of trees, which grow pretty thick, for they will take much delight both to ſing and breed in them: And the bottom of the place they ſtrow with a fine ſort of ſand, and upon it caſt ſeeds of Rape, Chickweed, and Groundſil; which the old bird doth eat, both at time of laying, and alſo when they have young ones. They put in the houſe all ſorts of ſtuff for the building of their Neſts; and Brooms up and down the corners, one under another, and to the height of the place that is built for the purpoſe; and make partitions between every Neſt, to make them breed the quieter, without diſturbing one another: And in the middle of the Room they will ſet a board edge-ways to darken the light on each ſide; for no bird almoſt doth naturally love to have much light come to his Neſt. They plant a tree or two, if the houſe be big enough, one at each end, with many Pearches alſo along each ſide of the houſe, and all along where they make their Neſts: The place alſo that is in the air is full of Pearches. They hang their ſtuff for building all up and down the houſe, that the rain come not at it, and ſtrow ſome on the ground alſo. Some have fine fountains in thoſe places that are out-lets for the birds to go at pleaſure into the air; in which the birds take very much delight to waſh and prune themſelves.

They ſeldom take their Neſts away to bring them up by hand, as we do here, but they let the old ones always bring them up; and when they are pretty ſtout, and can crack hard ſeeds, they have ſmall places for the young to come and feed in; and they give them of all ſorts of green ſeeds to feed upon; and have a kind of trap-door to take them. They ſay, that if they do not ſoak ſeeds for the young ones, very few will live, by reaſon the Hen is apt to forſake them, and go to Neſt again; and the ſeeds being very hard, they pine away and die.

How to breed and order the young ones taken out of the Neſt.

Theſe Birds muſt not be left too long in the Neſt; for if they are, they will be very apt to grow ſullen, and will not feed kindly: Therefore take them out about nine or ten days old, and put them in a little basket, and cover them with a Net, elſe they will be very ſubject to jump out upon the firſt opening of the Basket, and if they fall to the ground they will be bruiſed and die. You muſt keep them warm for the firſt week, for they are very tender, and if they take cold will be ſubject to the cramp, and not digeſt their meat.

Take them in the Evening, and if you can poſſibly when the old ones are out of ſight; otherwiſe they will be apt to take diſtaſte when they ſit again, and have young ones; and will be apt at every fright to forſake both their Young and Eggs.

Make their meat after this manner. Take ſome of your largeſt Rape-ſeeds, and ſoak them in water twenty four hours or leſs, if the water be a little warm I think twelve hours will ſerve the turn. Drain the water from the ſeeds, and put a third part of white bread to the ſeeds, and a little Canary ſeed in flour, and ſo mix them all together: Then having a ſmall ſtick, take up a little at the end, and give every bird ſome two or three times over; give them but a little at firſt at a time and often; for if you over-charge their ſtomachs they will caſt up their meat, and ſeldom thrive after it. For the old ones give them but little at a time, and beſides, all the ſeeds huld and warmed in their ſtomachs; which lie nothing ſo hard on their ſtomachs as ſeeds that have their skins on. You muſt not make their meat too dry, for then they will be apt to be Vent-burnt, by reaſon all the ſeeds are hot. For I have obſerved, that the old ones do conſtantly drink after they have eaten ſeeds, and a little before they feed their young ones; and they commonly after feeding of them ſit a quarter of an hour

hour or more to keep them warm, that the meat may the better nouriſh them; therefore do you alſo when you have fed them cover them up warm. I approve beſt of the neſtling bird by reaſon of his tameneſs and familiarity with his Keeper; which is the chief pleaſure of a bird. For if a bird be not tame, but extraordinarily wild and buckiſh, there is no pleaſure in feeding or hearing of him ſing, being apt upon all occaſions to bruiſe himſelf, and to forſake his ſinging when moſt deſired.

Chap. XIII.

The Bird called Citril *at* Vienna; Verzellino *at* Rome; *in Latine*, Thraupis & Citrinella.

IN the ſhape of the Head and whole body it is very like to a *Linnet*. The Head and Back green: The Rump of a yellowiſh green: The hinder part of the Head and Neck aſh-coloured. [In a bird that I deſcribed at *Rome*, the top of the Head, the upper ſide of the Neck and the Shoulders were particoloured, of a yellowiſh green and dark brown.] The nether ſurface of the body is green, but about the Vent it is whitiſh. The upper part of the Breaſt and the Belly in the Male birds is of a lovely yellow. The Tail is 2 $\frac{1}{8}$ inches long, and black, but the extreme edges of the feathers are green. The quil-feathers of the Wings are of the ſame colour with the Tail: The leſſer rows of Wing-feathers green. [In thoſe birds I deſcribed at *Rome* the tips both of the quil-feathers, and alſo of the ſecondary feathers of the Wings were white.]

The Bill is hard, of a dusky or livid colour, having ſharp edges, thicker and ſhorter than the *Siskins* [yea, in proportion to its body ſhorter and thicker than the *Linnets* or *Greenfinches* Bill:] The upper Chap equal to the lower. The Tongue as in *Chaffinches:* The Feet whitiſh or fleſh-coloured, with blackiſh Claws. The Guts long, ſlender, and rolled up together.

It is nurſed up in Cages for the ſake of its ſinging. At *Vienna* in *Auſtria* we ſaw of theſe birds to be ſold, brought out of *Stiria*. It is frequent about *Rome*.

It differs from the *Siskin* and *Serin*, 1. In its aſh-coloured Neck: 2. In that the whole nether ſide of its body is green. 3. That it hath no ſpots in the ſides. *Olina* attributes to it a Tail a little forked; which we alſo obſerved in a bird we deſcribed at *Rome*.

Bellonius eſteems this bird to be the *Thraupis* of *Ariſtotle*, called in French, *Tarin*. It hatches ſeven or eight Eggs at one ſitting.

Chap. XIV.

The bird called Hirngryll *at* Vienna, Serinus *Geſner. Aldrov.* lib. 18. cap. 20.

THE Back of this is ſomething red, the middle parts of the feathers being ſpotted with black, as in the *Yellow-hammer*. The Head is yellow, of a deeper colour in the Males, and paler in the Females. The Rump from green inclines to a lovely yellow. The Breaſt is of a yellowiſh green: The Belly white: The ſides variegated with oblong, black ſpots.

The Tail is black, the outmoſt edges of the feathers being green, conſiſting of the uſual number of twelve feathers. The prime feathers of the Wings are of the ſame colour with the Tail. The tips of the interiour feathers of the ſecond row of the Wing are white; of the other leſſer Wing-feathers green.

The Bill is ſhorter and ſtronger than in the *Citrinella*, ſharp-pointed. The upper Chap ſomething prominent: The Tongue like the *Chaffinches:* The Feet dusky; the Claws black. The like coheſion of the outer and middle toe at bottom as in other ſmall birds. The Guts are ſmall, and have many convolutions.

Theſe Birds alſo are kept in Cages for their ſinging: We ſaw of them to be ſold at *Vienna* in *Auſtria*, brought out of *Stiria*. This little bird (ſaith *Geſner*) for its rare muſical ſinging is preferred before all others of this kind, even the *Citrinella*.

The *Siskin*, *Citrinella*, and *Serinus* agree, 1. In having yellow Rumps: 2. That they are canorous: 3. That they have greenish yellow Breasts, and 4. Long, slender Guts.

The *Serinus* and *Citrinella* agree in the colour of the Tail and Wings. The *Siskin* and *Serinus* in their spotted sides and white bellies: The *Siskin* and *Citrinella* in having a green back; but in the *Siskin* the shafts of the feathers are black.

This Bird grows very tame and gentle (as *Gesner* reports) and will live many years [thirteen or fourteen] shut up in a Cage.

* *The Brasilian* Teitei, *which they call also* Guiranhemgeta *and* Guraundi, *Marggrave.*

It is a small bird, of the bigness of a *Robin-red-breast*. It is kept in Cages for a singing bird, but it only chirps like a *Redstart*, [*Rubrica*] called by the *Germans*, *Gimpel*. It feeds upon *Paco* and *Mamao*. It hath a short, thick, black Bill. The Head, upper side of the Neck, Wings, whole Back and Tail are invested with black feathers, with which something of blue is mixt, so that they shine like polished Steel. The Throat, lower side of the Neck, the Breast, the whole lower Belly and Thighs are yellow. At the rise of the upper Bill behind the Nosthrils it hath a spot of yellow feathers. The Legs and Feet are of a dusky colour. And this is the Cock.

The Hen in proportion of body and magnitude agrees exactly with the Cock; hath the same Bill and Legs: But differs much in colour. For it is green like the *Acanthis*, called by the *Germans*, *Zyschen*. The Wings and Head with the upper side of the Neck are somewhat dusky, with blue mingled. These birds delight to live together five or six in a Cage.

Chap. XV.

The Anadavad Bird, brought from the East Indies, having a Finches Bill and Larks Claws.

In bigness it scarce exceeds the *Golden-crown'd Wren*. Its Bill is for shape like a *Goldfinch* or *Chaffinches*; for colour red, the upper Mandible above being black. The upper side of the body is of a dusky colour, in some birds lighter, in others darker; only the feathers growing about the Rump are of a scarlet or deep Orange. The quil-feathers of the Wings and those of the Tail are black. The Tail it self is an inch and half long, made up of twelve feathers; the middlemost being the longest, and the exteriour in order shorter. The quils and covert-feathers of the Wings are spotted with small round white spots, scattered up and down in no order, in some birds more, in some fewer. In some birds the upper part of the Breast is of a scarlet red, in others it is wholly black, as is the rest of the Breast and Belly in all. In one Bird, which was paler than the rest that we saw, and almost of the colour of a *Robin-red-breast* on the Back, not only the Wings, but also the side-feathers, and those scarlet ones incumbent on the Tail were marked with white spots. The Legs and Feet are white: The Claws very long, like those of *Larks*, but more crooked. The figure of the body is rather long than round.

In the year of our Lord, 1673. I saw many of these birds (in the house of a certain Citizen of *London*) that had been brought out of the *East Indies*, kept all together in the same Cage: Being introduced by my worthy friend *Thomas Allen*, Doctor of Physic, who also gave me the first notice and information of them.

Chap. XVI.

A Bird called by the Bologneſe, Petronia Marina, *by* * *Aldrovand,* Oenanthæ congener. * *Lib* 17. *cap.*38.

The length of this Bird, taken from the tip of the Bill to the end of its Claws, was little leſs than ſeven inches: Its breadth between the extremes of the Wings diſtended twelve and a quarter. Its Bill ſtrong, ſharp-pointed, like that of a *Chaffinch*, from the tip to the angles of the Mouth ſomewhat more than half an inch long: The upper Chap black, the lower about the angle yellow. The angle itſelf is round: The ſides of the Bill ſharp-edged. The Head is of a dusky aſh-colour, but for the moſt part through the middle of the crown is a line drawn of a whiter colonr. The Neck is aſh-coloured. Below, between the Shoulders the feathers have their outer edges of a pale aſh-colour, their inner black. The Rump from dusky inclines to green, but the tips of the feathers next the Tail are white. The prime feathers in each Wing are in number eighteen, of which the firſt or outmoſt is ſhorter than the ſecond, the ſecond equal to the third, and longeſt of all. Theſe three feathers are of a dark brown or blackiſh, only their outmoſt edges of a pale green. The ſecond, third, and fourth rows of Wing-feathers have white tips, but elſe are black. The Plumage on the baſe or ridge of the Wing is of a ſordid green. The feathers covering the underſide of the Wing are white. The Breaſt is of a ſordid white. The feathers next the Tail have pale yellow tips, elſe they are brown. The Tail is two inches and an half long, and made up of twelve feathers.

This ſort is diſtinguiſhed from all other ſmall Birds, 1. That it hath a very fair, lovely, yellow ſpot about the middle of its Throat. 2. That all the feathers of the Tail on the interiour Web near the tip are marked with one great round white ſpot, being elſe all black, ſave the edges, which are greeniſh. The outer half of the outmoſt feather on each ſide is alſo white. 3. It is diſtinguiſhed from the *Hortulane* by a moſt certain note, that its Bill is far bigger, and ſtronger, and equal to a *Greenfinches* Bill.

We ſaw many of theſe Birds at *Bologna* in *Italy* to be ſold. The Bird which *Aldrovandus* ſaith is called *Petrone* at *Bologna*, and *Petronello* at *Genua*, and deſcribes under the title of * *Alaudæ congener*, ſeems to be no other bird than the *Emberiza alba* of *Geſner*, or our *Bunting*, as will appear to him that ſhall take pains to compare the deſcriptions. * *i.e.* A bird of kin to the *Lark*.

Chap. XVII.

The Hortulane kind, whoſe characteriſtic is a hard knob in the upper Chap of the Bill.

§. I.

The Bunting called by Geſner Emberiza alba. *I take it alſo to be the* Calandra *of Aldrov. and Bellonius, moreover the* Alaudæ congener *of Aldrovand, and the* Cenchramus *of Bellonius: The* Strillozo *of Olina.*

It weighs about an ounce and half: Its length from the tip of the Bill to the end of the Tail was ſeven inches and a quarter, and ſo much to the end of the Claws. Its breadth between the tips of the Wings ſpread eleven inches and an half. Its Bill is great and thick, having a hard knob or eminency in the upper Mandible or Palate, wherewith it is thought to bruiſe Wheat, Oats, and other Grain. The ſides of the lower Chap riſe up in an angle on each ſide, [as may be better repreſented by a figure than expreſſed in words] and incline to one another under the Tubercle of the Palate. The Tongue is ſharp, and ſlit in two. The Claws are of a pale dusky colour. The back-toe is great, armed with a leſſer and more crooked Claw than in *Larks*. The outmoſt fore-toe is equal to the inmoſt, and grows faſt to the middle-

moſt at bottom, as in other birds. This birds Head ſomewhat reſembles a *Rails*. The colour of the whole body teſtaceous or earth-like. The Chin, Breaſt, Belly are of a yellowiſh white. The Throat hath oblong, black ſpots. The quil and covert-feathers of the Wings are dusky, having their outer edges cinereous. The Back (as we ſaid) of a teſtaceous colour, the middle parts of the feathers being blacker. The Neck beneath the Head behind is aſh-coloured. The ſhafts of the Head-feathers are of a dark brown; the outſides or edges being of a reddiſh aſh-colour. The Tail is more than three inches long, of a dusky red colour, without any whiteneſs, ſave that a kind of dark ſhadow or appearance of white may be diſcerned in the outmoſt feathers. It ſings ſitting upon the higheſt twigs of trees and ſhrubs. It feeds upon Corn.

Both the figure and deſcription of the Bird called *Strillozo* in *Olina* agree exactly in all points to our *Bunting*, ſave only that he attributes to it the bigneſs of the *common Lark*, than which our *Bunting* is ſomething bigger. I my ſelf alſo, when I was at *Rome*, ſaw and deſcribed a ſmall bird called *Strillozo*, ſomewhat leſs (as it then ſeemed to me) than the *common Lark*. Seeing therefore *Olina* beſides the *Strillozo* deſcribes alſo the *Calandra*, making it ſomewhat bigger than the *common Lark*, and not much leſs than a *Thruſh*, I do ſuſpect that the *Calandra* is the ſame with our *Bunting*, and the *Strillozo* a different kind of bird, deſcribed by none beſides him, at leaſt clearly and exactly.

The deſcription of the *Alaudæ congener* of *Aldrovand* agrees exactly to this Bird, ſo doth alſo that of the *Cenchramus* of *Bellonius*, ſo that of one bird *Aldrovandus* makes four, giving us the *Bunting* under the title of 1. *Emberiza alba:* 2. Of *Alaudæ congener:* 3. Of *Cenchramus Bellonii:* 4. Alſo (if we be not much miſtaken) of *Calandra*; all which he exhibits for diſtinct *Species*.

§. II.

The Yellow-hammer, Emberiza flava *of Geſner*; Hortulanus *of Bellonius*; Luteæ alterum genus *of Aldrovand*; Chloreus ſeu Lutea Ariſtotelis *of Turner*.

IT is equal to a *Chaffinch*, or a little bigger; weighs 1 ½ ounce: From the tip of the Bill to the end of the Tail is ſix inches and an half long; to the end of the Feet but ſix. Its Bill is of a dark dusky colour, half an inch long, having a hard knob in the upper Chap to break the grains of corn, and the ſides of the nether Chap turned inwards, and bent together, like the *Buntings*. The Tongue ſhorter than is uſual in other birds, not reaching beyond the knob, its tip horny and ſharp, ſlit into filaments. The Eyes hazel-coloured: The Feet of a horn colour; the Claws black. The like coheſion between the outmoſt and middle toe at the bottom, as in other birds.

The Throat and Belly are yellow: The Breaſt hath ſomething of red mingled with it, as alſo the ſides under the Wings. The Head is of a greeniſh yellow, ſpotted with brown. Above the Shoulders in the lower part of the Neck is a certain colour between green and cinereous, or compounded of both. The middle parts of the covert-feathers of the Back and Shoulders are black, the edges from green incline to red. The Rump is reddiſh.

The Female is all over paler, leſs yellow on the Head, leſs red on the Breaſt and under the Wings.

The quil-feathers of the Wings are dusky, having their exteriour edges from green inclining to a ſordid white. The Tail is three inches long, compoſed of twelve feathers, ſomething forked, of a brown colour; the middle two having their edges on both ſides, the reſt only their outſide-edges green. The two outmoſt on the inſide the ſhaft near the tip are marked with a white ſpot cutting the feather obliquely.

It hath a Craw and a muſculous Stomach or Gizzard like the granivorous birds. It hath alſo a Gall-bladder. The blind guts, as in almoſt all ſmall birds, are very little and ſhort. Theſe birds build upon the ground, being every where in *England* moſt common.

§. III.

Aldrovandus his first sort of Yellow-hammer, which he calls Cirlus: Zivolo *of Olina.*

IT is of the bigness of a *Sparrow*; hath a short thick Bill. The Breast and Belly are yellowish, sprinkled with brown spots. The Head, Back, Wings, and Tail from testaceous inclining to a brown or dusky colour: but in the Tail there are two feathers on each side partly white, and partly of the same colour with the rest. Between the Male and the Female there is this difference, that the Male hath more yellow about him than the Female, especially in the upper part about the Eyes, and in the Throat, and under the Neck on the sides, where are seen good large spots of yellow, which are wanting in the Female. It abides for the most part on the ground, seeking its food there of Seeds, and other things, and therefore when it is new taken it is wont almost always to have its Bill dirty. Whether this Bird be specifically distinct or no from the precedent I am not fully satisfied; but because both *Aldrovandus* and *Olina* make it distinct, I would not omit it.

Olina calls it *Zivolo*, from its note *Zi zi*, which it often ingeminates.

§. IV.

The Reed-Sparrow. Passer torquatus in arundinetis nidificans. *Perchance the* Passer arundinaceus *of Turner.*

IT is bigger than the *Linnet*, equal to the *Chaffinch*. The Cock weighed three quarters of an ounce: Was from Bill-point to Tail-end six inches and an half long: Broad between the extremes of the Wings spread ten inches. The Bill short, black [Mr. *Willughby* makes the upper Mandible black, the nether whitish] like the Bill of the *Hortulane*, [Mr. *Willughby* compares it to the *Chaffinches* Bill,] the lower Chap having its edges on both sides bent inwards, is hollow in fashion of a Funnel, and contains the Tongue within it. Besides, near its base it rises up into a dent or angle on each side, to which there is a notch or furrow correspondent in the upper Chap to receive it, as in the *Buntings* Bill. The Head is black: The Cheeks about the Eyes red. A ring of white encompasses the Neck, which on each side is stretched forth to the corners of the Mouth. The Chin and Throat are black: The Breast and middle of the Belly white. The Back and covert-feathers of the Wings are particoloured of red and black; *viz.* the middle part of each feather black, the outsides red. The Rump red, with a mixture of ash-colour. The quil-feathers of the Wings are dusky, having their exteriour edges red. The tips of the seven first or outmost are sharp, of the rest blunt, indented, and of an ash-colour. The lesser rows of Wing-feathers have their outer edges and tips red, being else of an ash-colour. The Plumage on the base or ridge of the Wing bluish, underneath the Wing white: The Tail is two inches and an half long, and made up of twelve feathers, of which the two middlemost are something shorter than the rest, and black, their outward edges red: The three next on each side were dark coloured, and almost black. The exteriour edge of the fifth is white: The interiour also not far from the tip is spotted with white. The outmost feather is wholly white. All end in sharp points.

The Feet from flesh colour decline to black. The Claws are black: The outmost and middle Toe joyned at bottom. The back-toe great and strong. The blind guts short and thick. It hath a Gall-bladder. The Stomach is musculous: In it opened we found seeds, *&c.*

The Hen, as in most Birds, is not so fair-coloured. The ring about her Neck is darker, and scarce appearing. The Head, Back, Shoulders, and covert-feathers of the Wings are particoloured of black and dirty red; *viz.* the middle parts of the feathers are black, and the outsides red. At the base of the Wing are red feathers. The Throat is particoloured, of red, black, and cinereous.

§. V.

§. V.

The Hortulane of the Italians. Hortulanus *Aldrov.* Tordino Berluccio *at Venice.*

IT is equal and very like to the *Yellow-hammer* [That which I *J. R.* saw and described at *Florence* seemed to me somewhat less, and longer-bodied.] The Hen measured from Bill to Tail exceeded seven inches length; being in our usual way of measuring ten and an half broad. Its Bill was short, *viz.* from the tip to the corners of the Mouth scarce half an inch long, thick at base, sharp at point; of a red or flesh colour in the Cock. In the Hen the upper Chap is black, the lower blue. The knob on the upper Chap is much less than in the *Yellow-hammer*. The sides of the Bill are sharp. The upper Mandible hath on each side an angle or furrow impressed, to which answereth a tough or angular eminency in the lower, as in the *Bunting*, the figure whereof for the clearer apprehension and understanding of what we say is to be viewed. The Feet are of a pale dusky: The Claws black. [In the Cock the Legs are reddish.] The back-toe is great. The inner and outer fore-toes are of equal length. The outmost from the bottom to the first joynt sticks fast to the middlemost without any membrane intervening, as in most small birds. The Throat and Breast are ash-coloured, the rest of the underside to the very Tail is red. The Rump of a deeper red. The Head of a brown or dusky ash-colour, the middle parts of the feathers being black: As they are likewise on the Back, having their edges of a reddish ash-colour. [In the Cocks the Breasts are more red.] Under the Bill is a yellow spot. The Head is of a colour mingled of green and cinereous: The middle parts of the Back-feathers are black, the edges of a colour mingled of red and cinereous, or red and green; the Rump is green.

The quil-feathers of the Wings, as in almost all small birds, are eighteen in number, of which the greater have their edges of a greenish white, the lesser or interiour of a red. The tips of all the feathers of the second row have their tips white, and exteriour edges red. The tips of the third row are also white. The edges of the lesser coverts are cinereous. The Tail is almost three inches long, and made up of twelve feathers: Of which the middle and outmost are something shorter than the rest. For colour the two middlemost are of a dark brown, with red edges: The three next on both sides black: The outmost but one have the upper half of their interiour Webs white. The outmost have more white on the interiour Web, and some also on the exteriour. The Gall-bladder is little, and the Gall within yellow.

It is very like our *Reed-Sparrow*, with a white ring about its Neck, yet differs manifestly from it in some marks, so that there is no doubt but it is a distinct kind. 1. In its place, this abiding chiefly among Reeds: Whereas the *Hortulane* frequents Gardens especially, as the name imports. 2. In colour: The *Hortulane* being more red, and wanting the ring about the Neck, which this hath: And besides, having a yellow spot under the Throat, which this wants.

* *Ornithol.* lib. 13. cap. 24.

* *Aldrovand* sets forth six kinds or varieties of this bird. 1. The *first* was all yellow, almost of a straw-colour, excepting the ridges of the Wings, and tips of the quil-feathers, which were white. 2. The *second* was all over white. 3. The *third*, called also by the Fowlers a *Hortulane*, is indeed a bird wholly of the shape of a *Hortulane*, but something different in colour. Its Head from cinereous inclined to yellow: Its Neck was cinereous, but speckled with black: Its Belly, Legs, and Feet yellow. The ridges of the Wings and the quil-feathers white; the other parts partly black, and partly cinereous. The whole Tail brown, but yellow on the sides. 4. The *fourth* had a green Head and Neck; a red Bill; ash-coloured Legs; else it was black. Yet hath it on the crown of the head, and also in two of the quil-feathers only an oblong white spot. 5. The *fifth* I may call a *white-tail'd Hortulane*: For its Tail was white, else it was like the common *Hortulanes*, but in all parts paler. 6. The *last* some of our Fowlers reckoned a kind of *Spipola*, others a kind of *Hortulane*; and indeed I should make it congenerous rather to the *Spipolæ* than the *Hortulanes*. For its Bill is longer, and its Legs and Feet dusky, which in the *Hortulanes* are wont to be yellow. Its whole body also is dusky, the Breast only and ends of the Wings being white.

§. VI.

* *A Bird called by* * *Aldrovand*, Cirlus ſtultus.

* *Ornithol.* lib. 18. cap. ult.

IT is equal in bigneſs to the *Yellow-hammers* above deſcribed of the ſame make and habit of body, the very ſame figure and ſhape (though it differs in colour.) It will alſo willingly fly to, and company with them ſhut up in Cages, as to birds of its own feather: And beſides, it conſtantly no leſs than they, as well flying as reſting, ingeminates this word *Ci*, *Ci*. Whence alſo in ſome places, as at *Genoa*, it is not undeſervedly called *Cia*, or for diſtinction ſake, *Cia ſelvatica*, or *Cia montanina*; and by our *Bologneſe*, *Cirlo matto*. The upper part of the Head behind, and all the Back are adorned with a * ferrugineous colour, diſtinguiſhed with pretty large black ſpots. * Ruſty. From the Bill over the Eyes to the end of the Neck is extended an aſh-coloured line tending to white. The Breaſt and all the Belly are wholly taken up with a ferrugineous colour. The prime feathers of the Wings and Tail are blackiſh, yet their outmoſt borders terminate in a ferrugineous colour. Beſides, the Wings have ſome white ſpots. In the Tail are one or two feathers on each ſide, partly blackiſh, and partly white.

We have ſubjoyned this Bird to the *Yellow-hammers* and *Hortulanes*, to which it is of kin; though whether or no it properly pertain to this Family, the figure of the Bill being omitted in *Aldrovands* deſcription we cannot certainly determine.

THE

WATER-FOWL are either such as

- *Frequent waters and watery places*, to seek their food, and are all cloven-footed. These are either
  - The *greatest* of this kind, anomalous Birds, as the *Crane*, *Jabiru*, &c. Part 1. Sect. 1.
  - The *lesser*, which are either
    - *Piscivorous*, that feed upon Fish, as the *Heron*, *Spoon-Bill*, *Stork*, &c. Part 1. Sect. 2.
    - *Mudsuckers* and *insectivorous* with
      - *Very long Bills*, whether
        - *Crooked*, as the *Curlew*, *Whimbrell*, &c. Part 1. Sect. 4.
        - *Streight*, as the *Woodcock*, *Godwit*, &c. Part 1. Sect. 3.
      - *Middle-sized Bills*, as the *Sea-Pie*, *Red-shank*, &c. Part 1. Sect. 5.
      - *Short Bills*, as the *Lapwing* and *Plover*. Part 1. Sect. 6.
- *Swim in the water*; these are either
  - *Cloven-footed*, as *Morehens*, *Coot*, &c. Part. 2. Sect. 1.
  - *Long-leg'd*; anomalous birds, The *Flammant*, the *Avosetta* and *Corrira*. Part 2. Sect. 2.
  - *Whole-footed*, either
    - *But three toes* in each foot, The *Penguin*, the *Razor-bill*, &c. Part 3. Sect. 1.
    - *All connected together* by intervening membranes, The *Pelecan*, the *Soland Goose*, &c. Part 3. Sect. 2.
  - *Short-leg'd*, having *Four toes* in each foot, either
    - The *back-toe* loose; and these are either
      - *Narrow-bill'd*, the Bill either
        - *Blunt and hooked at tip*, either
          - *Serrate*, DIVERS, Part 3. Sect. 4.
          - *Not toothed*, The *Puffin*, &c. Part 3. Sect. 3.
        - *Sharp-pointed and streighter*, These are either
          - *Short-winged* and *Divers*, called DOUCKERS. Part 3. Sect. 5.
          - *Long-winged*, and much upon the wing, called GULS. Part 3. Sect 6.
      - *Broad-bill'd*, which may be divided into the
        - *Goose-kind*, which are the bigger, P. 3. Sect. 7.
        - *Duck-kind*, the lesser, which are either
          - *Sea-Ducks*, that dive much.
          - *River and Plash Ducks*.

THE THIRD BOOK OF THE ORNITHOLOGY OF *FRANCIS WILLUGHBY* Esq;

Of Water-Fowl.

WAter-fowl are either *Cloven-footed*, which are much conversant in *or about waters*, and for the most part seek their Food in watery places. [Almost all these have long Legs, naked or bare of feathers for a good way above the Knees, that they may more conveniently wade in waters] or *Whole-footed*, which *swim* in the water, and are for the most part short-leg'd.

Those that live much about waters are either, first, of *great size*, the biggest of this kind, having each something singular, and being not reducible to any other tribe, which therefore as straglers and anomalous birds we have placed by themselves, though they agree in nothing but their bigness: Or secondly, of *lesser size*. These lesser are either * *Piscivorous*, or such as suck a nourishing fat juice or moisture out of muddy and boggy ground, or † *Insectivorous*. The *Piscivorous* are *Herons*, *Storks*, &c. The *Limosæ* or *Mud-suckers* may be distinguished by their Bills into such as have *very long* Bills, either *crooked*, as the *Curlew*, or *streight*, as the *Woodcock*. The *Insectivorous* Water-birds have either Bills of a middle size for length, as the *Himantopus*; or short Bills, as the *Plover*, *Lapwing*, &c.

* That feed upon fish.

† That feed on Insects.

We call those Birds *Mud-suckers*, which suck out of the Mud or Channels some oyly slime or juice, wherewith they are nourished: Whence they have delicate flesh, and their very guts not emptied or cleansed from the Excrements are usually eaten. These have very long Bills for this purpose, broad near the tip, and finely chamfered or wrought with lines: Speckled bodies; two toes somewhat joyned; all broad, that they may not easily sink as they walk upon muddy and boggy grounds.

But because we are not so skilful, as that we can certainly determine what Birds belong to each of these kinds, we shall chuse rather to distinguish Cloven-footed Water-fowl, not Piscivorous by the different length of their Bills, into three kinds. The *first* shall be of those that have the *longest* Bills, whether *streight*, as the *Woodcock*, &c. or *crooked*, as the *Curlew*, &c. The *second* of such whose Bills are of a *middle length*, as the *Himantopus*, &c. The *third* of *short-bill'd* birds, as the *Plover*, *Lapwing*, &c. Those we call *long-bill'd*, whose Bills exceed two inches and an half length: those *middle-sized*, whose Bills are of any length between two inches and an half, and one and an half: Those *short-bill'd*, whose Bills exceed not an inch and half.

Most Water-fowl have a short Tail; none of them have their Feet so disposed as *Woodpeckers* and *Parrots*, that is two forward, and two backward; none having more than one back toe. Among Water-fowl of all kinds those that feed upon fish have the ranker and stronger-sented flesh.

The First Part.

Of Cloven-footed Water-fowl, wading in Waters, or frequenting watery places.

The First Section.

The greateſt Cloven-footed Water-fowl of a ſingular kind.

Chap. I. § I.

The Crane: Grus, Γέρανος Græcis.

THis is a large-bodied Fowl, weighing ſometimes ten pounds. Meaſuring from the beginning of the Bill to the end of the Tail it is well nigh five foot long. That it hath a very long Neck is ſo well known that it is needleſs to write it: Its Legs alſo are very long.

Its Bill is ſtreight, ſharp-pointed, of a dark greeniſh colour, near four inches long, compreſſed ſide-ways: Its Tongue broad and horny at the tip. The top of the Head black; from the Bill to the hinder part covered with black hairs or briſtles rather than feathers. On the back of the Head it hath a ſpace or bed of the figure of a Creſcent, bare, or thin ſet with hairs, and of a red colour: Below which, on the upper part of the Neck is a triangular ſpot of aſh-coloured feathers. Two white lines or ſtroaks, one from each Eye, are produced backwards, and meeting behind the *Vertex* of the now mentioned triangular ſpot, are thence continued as far as the Breaſt. The Throat and ſides of the Neck are of black hue. The Back, Shoulders, covert-feathers of the Wings *, Breaſt, and all the Belly and Thighs are aſh-coloured; only the quil-feathers of the Wings, and thoſe on the utmoſt Pinion are black.

* Excepting thoſe on the utmoſt joynt.

The Wings are very large: The quil-feathers are in number twenty four, and (as we ſaid) black, yet the leſſer of them from black incline to red or ruſſet, as do alſo the primary covert-feathers which are on the utmoſt joynt or Pinion. The Tail for the bigneſs of the bird is ſmall and ſhort, round when ſpread, conſiſting of twelve feathers, all cinereous, with black tips.

The Legs are black, bare of feathers for an hand breadth above the Knees: The Toes black, and very long. The lower joynt of the outmoſt and middle Toe connected by a thick membrane.

But that which is moſt rare, and eſpecially remarkable, yea, wonderful in this bird, is the conformation of the Wind-pipe. For entring far into the Breaſt bone, which hath a great cavity within to receive it, and being there thrice reflected (as the figure adjoyning to the ſculp of the Crane repreſents) goes out again at the ſame hole, and ſo turns down to the Lungs.

The blind guts are five inches long. The Stomach or Gizzard muſculous as in granivorous birds. The fleſh is very ſavoury and well-taſted, not to ſay delicate.

We ſaw many *Cranes* to be ſold in the Poulterers ſhops at *Rome* in the Winter time, which I ſuppoſe had been ſhot on the Sea-coaſt.

They come often to us in *England*: And in the Fen-Countries in *Lincolnſhire* and *Cambridgeſhire* there are great flocks of them, but whether or no they breed in *England* (as *Aldrovandus* writes, he was told by a certain *Engliſh* man, who ſaid he had often ſeen their young ones) I cannot certainly determine either of my own knowledge, or from the relation of any credible perſon. The delicate taſte of the fleſh and the muſculous Stomach are ſufficient arguments to evince, that this bird feeds not at all upon fiſh, but only upon herbs, grain, and ſeeds of divers ſorts, and it is likely upon Inſects too: As the Authors alſo that have written of it unanimouſly report.

Cranes differ from *Herons*, 1. In that the Claw of the middle toe is not ſerrate as in *Herons*: 2. In bigneſs, wherein they exceed them: 3. In having a ſhorter Bill: And 4. a muſculous ſtomach or Gizzard: 5. Two *Appendices* or blind guts, whereas *Herons* have but one: 6. In the ſtrange revolution of the Wind-pipe within the Breaſt-bone.

§. II.

§. II.

The Indian Crane.

THis is leſſer than our *common Crane*, but of the ſame aſh-colour, Its Tail is ſhort, and ſcarce conſpicuous, being hidden by the Wings. Its Bill is ſtreight, narrow, and longer in proportion than the Bill of the *common Crane*: Its Noſthrils oblong. The chief difference is, that in this the top of the Head from the Bill to the Crown is bare of feathers [only ſet with thin hairs] rough-skin'd, and of a red colour. This we ſaw among his Majeſties rare Birds kept in St. *James*'s Park near *Weſtminſter*.

§. III.

The Balearic Crane: Grus Balearica *Aldrov.* Pavo marinus* *Cluſ.*

* *Exot.* lib. 5. cap. 11.

FOr the ſhape of its body it is like to a *Stork*: Yet its Bill is ſhorter not only than a *Storks*, but than a *Cranes*. It hath upon its Head a thick, round Creſt, made up of Briſtles ſpread every way, like to Hogs Briſtles, of the colour of the prickles of a common *Hedghog*: By which note it may at firſt ſight be eaſily known and diſtinguiſhed from all other birds. In both Cheeks it hath a white ſpot terminated above with a red line. The leſſer quil-feathers of the Wings are white: the whole Bird beſides is black, of the colour of a *Coot*, the Tail not excepted. Under the Bill hangs down a red * excreſcence on each ſide like a Gill or Wattle. The Legs are long, bare of feathers from the knees upward almoſt to the ſecond joynt. We ſaw a bird of this kind in the Royal Aviary in St. *James*'s Park near *Weſtminſter*.

* Or Lobe of fleſh.

Aldrovandus his deſcription, which he took from a Picture he ſaw of this Bird, differs in ſome particulars from ours: For 1. He makes the briſtles of the Creſt of a * Gold colour: 2. All the underſide of a dusky aſh-colour, the Back of a dark green, as in *Lapwings*: 3. He mentions ſome ferrugineous feathers in the Wings.

* *Cluſius* makes them alſo of a yellow colour.

Theſe Birds are found in the Country near *Capo Verde*. For bigneſs they may match our Country *Cranes*. As they run they ſtretch out their Wings, and ſo run very ſwiftly, otherwiſe they walk ſoftly. They never rooſt in houſes, but about night when they have a mind to go to their reſt, they ſearch out high Walls whereon to pearch, after the manner of *Peacocks*, whoſe voice and conditions they alſo imitate. They feed upon green herbs, and together with *Hens* and *Peacocks* devour Barley and other grain. This out of *Aldrovandus*.

In the Tables of Birds, engraven by *Viſcher*, it is figured by the title of *Struthio ex China*, i. e. *A China Oſtrich*.

CHAP. II.

* *Marggraves* Jabiru *of the Braſilians, called by the Low Dutch,* Negro.

THis Bird in bigneſs exceeds a *Swan*. Its body is fourteen inches long; its Neck as many, and of the thickneſs of a mans arm. Its Head ſufficiently great; its Eyes black; its Bill alſo blackiſh, extended ſtreight forward, and above toward the point a little bending, eleven inches long, two and an half broad, edged * *verſus exteriora*: The upper Chap of the Bill is a little higher [or deeper] and bigger than the nether. It hath no Tongue: under the Throat is a Crop of a moderate bigneſs. The Legs are very long, *viz.* two foot. For the upper Legs [or Thighs] are one foot and an inch long, and half way bare of feathers; the lower eleven inches: Theſe are ſtreight, black, and as it were ſcaled, half an inch thick. In each foot are four toes, three ſtanding forward, and one backward, as is uſual in moſt birds. The whole bird all over is covered with white feathers like a *Swan* or *Gooſe*. The whole Neck almoſt, *viz.* for eight inches length, counting from the Head, is deſtitute of feathers; and one half of this bare part, together with the Head, is covered with a black skin, the other half with a white. But I ſuppoſe the feathers had been pluckt off, and that the white down ſtuck in the skin. The Tail is broad, ending with the end of the Wings.

* I do not well apprehend our Authors meaning in theſe words, therefore I have put them down in the Language he wrote them in.

Chap. III.

* Jabiru guacu *of the Petiguares*, Nhandu apoa *of the Tupinambi*, Scurvogel *of the Low Dutch.*

IT hath a great Bill, seven inches and an half long, round at the end, and bending downward. It wants the Tongue, and the lower Bill is grey. On the top of the Head it hath a bony Miter or Crown, of a colour mixt of white and cinereous. The Eyes are black, and behind them large Ear-holes. The Neck is ten inches long, the upper half whereof, together with the Head, is not covered with feathers, but with a scaly ash-coloured skin, whose scales are white. In bulk of body it equals a *Stork:* It hath a short, black Tail, reaching no further than the ends of the Wings. The upper Legs [or Thighs] are covered partly with white feathers, else the whole Legs are ash-coloured; the upper being eight inches long, the lower six, or a little more. There are four Toes in each foot, so disposed as in the former. The whole Body and Neck are covered with white feathers. Long feathers hang down from the Neck and about it. The Wings are white; their quil-feathers black, with a gloss of a Ruby colour. They flay the skin off this bird, and eat the flesh boiled or roasted. It is fat, dry, and well-tasted, especially if it be fried with butter. I have eaten of it often.

Chap. IV.

The Brasilian Cariama *of Marggrave.*

THis is a Water-fowl of the bigness of the greater *Heron.* On its Head above the rise of its Bill it carries a crest or tuft of feathers, standing upright, of a black mingled with an ash-colour. The Bill is short, the upper part a little hooked, brown, with a tincture of dark yellow. It hath elegant golden Eyes, with a black Pupil, and long, black Eye-brows. The Wings end a little behind the rise of the Tail. It hath long Legs, above covered half way with feathers, else naked, and of a dark yellow colour: Three Toes in each foot, the middlemost the longest, the outer shorter than that, and the inner the shortest; connected partly by a skin intervening. Behind, or on the backside the foot it hath a small Toe, set higher than is usual, and a round heel like an *Ostrich.* The Claws are short, hooked, dusky. The whole Body is covered with grey or ash-coloured feathers, waved with brown, as in *Falcons*, and a dark yellow intermingled. The ends of the Wings and Tail are brown, waved with a dark yellow and grey. In the Breast and lower Belly it hath more grey. It carries its Tail low, its Neck high. Its cry is like a Hen-*Turkeys*, and is heard afar off. It is very good meat.

Chap. V.

The Brasilian Anhima *of Marggrave.*

IT is a Water-fowl of the rapacious kind, bigger than a *Swan.* Its Head is not great, like a Hens; its Bill black; the upper Chap whereof is something longer than the nether, and turning downward at the tip. It hath fair, golden Eyes, with a black Pupil, and a black circle without. On the Head near the rise of the Beak it carries an erect horn, bending forward at point, a little more than two inches long, of the bigness of the greater string in a base Viol; round as though it were turned, of a white or bone colour. About the horn stand up very fine, short, black and white feathers. Its Neck is seven inches long, the rest of its Body to the rise of its Tail almost a foot and half. It hath very large Wings; the greater feathers being above a foot and half long. In the forepart of each Wing are two streight triangular *horns, springing from the very bone of the Wing, as thick as the tip of ones little finger, and

* Spurs they may more properly be called.

and of a Conical [more properly Pyramidal] triangulate figure. The foremoſt of theſe goads or ſpurs are an inch long; the hindmoſt a little ſhorter, and of a dusky colour. It hath a Tail ten inches long, and broad like that of a *Gooſe*. The upper Legs [Thighs] are four inches long, and for the lower half bare of feathers. The lower Legs are five inches long, and almoſt two thick. In each foot it hath four toes ſo ſituate as in *Hens:* The middle of the three fore-toes is four inches and an half long; the other two three and an half; the back-toe almoſt two. Each hath a crooked, black Claw an inch long, but the back toes a little longer. Both Feet and Legs, as far as they be naked, are covered with a brown ſcaly skin. The crown of the Head is variegated with black and white feathers. The ſides of the Throat and upper half of the Neck are black. The lower half of the Neck and Breaſt are variegated with white, cinereous, and black feathers. The lower Belly is all white. On the ſides under the Wings, and on the Back the Plumage is black, white feathers being here and there intermingled. The Tail is black: The Wings alſo are black, excepting the outmoſt borders (near the bones) where they are covered with yellowiſh white feathers. It hath a terrible cry, ſounding ſomething like *Vyhu, Vyhu.* It is never found alone, but always a pair, Cock and Hen, walk together, and when one is dead, the other never departs from its carkaſs. The horn that grows on its Head is held to be a remedy againſt poyſon, being infuſed a whole night in Wine. The ſame is reputed a remedy againſt the ſuffocation of the Womb, and in hard travel. This that I deſcribed was a Hen: The Cock is of twice the bigneſs. It makes its Neſt of clay by the bodies of trees upon the ground, of the ſhape of an Oven. Thus far *Marggravius.* This is a bird of a ſingular kind, none like it: Perchance it may be the *Cuntur*, ſo much talked of. Here we may note by the by, that theſe ſpurs in the Wings are found only in ſome *American* birds, but in none of our Continent.

Book III. Part I. Section II.

Of Cloven-footed Piſcivorous Water-fowl.

These have very long Necks: Their Bills alſo are long, ſtrong, ending in a ſharp point, to ſtrike fiſh, and fetch them from under ſtones or brinks: Long Legs to wade in Rivers and Pools of water: Very long Toes, eſpecially the hind-toe, to ſtand more firmly in Rivers: Large, crooked Talons, and the middle ſerrate on the inſide, to hold Eels and other ſlippery fiſhes the faſter, or becauſe they ſit on trees; lean and carrion bodies, becauſe of their great fear and watchfulneſs.

The *Heron*-kind is diſtinguiſhed from all other tribes of birds by this moſt certain note, that they have but one ſingle blind gut a-piece, after the manner of Quadrupeds; whereas all other birds known to us have twain.

Chap. I.

Of Herons.

§. I.

The common Heron or Heronſhaw: Ardea cinerea major ſive Pella.

The Female (which I deſcribed) weighed almoſt four pounds: Being from the tip of the Bill to the end of the Claws four foot long, to the end of the Tail thirty eight inches and an half.

The foremoſt feathers on the crown of the Head were white, then ſucceeded a black creſt four inches and an half high. The Chin was white. The Neck being white and aſh-coloured was tinctured with red. The Throat white, being delicately painted with black ſpots; and on its lower part grew ſmall, long, narrow, ſharp, white feathers. The Back (on which grows nothing but down) is covered with thoſe long feathers that ſpring from

from the Shoulders, and are variegated with whitiſh ſtrakes or lines tending downwards. The middle part of the Breaſt, and lower part of the Rump, *viz.* that underneath the Tail inclines to yellow. Under the Shoulders is a great black ſpot, from which a black line is drawn to the Vent.

The prime feathers of the Wings are about twenty ſeven in number, the laſt of which are aſh-coloured, all the reſt black, excepting the outer edges of the eleventh and twelfth, which are ſomewhat cinereous. The underſides of all of them is cinereous. The feathers of the baſtard Wing are black. Under the baſtard-wing is a great white ſpot. Alſo white feathers cover the root of the baſtard wing above. Then a white line is continued all along the baſis or ridge of the Wing as far as its ſetting on. Ten of the ſecond row of Wing-feathers are black, then four or five have their exteriour borders white: All the reſt are aſh-coloured. The Tail alſo is aſh-coloured, ſeven inches long, and made up of twelve feathers.

Its Bill is great, ſtrong, ſtreight, from a thick baſe gently leſſening into a ſharp point; from the tip to the angles of the Mouth five inches and an half long, of a yellowiſh green colour. The upper Mandible is a thought longer than the nether, and therein a furrow or groove impreſſed, reaching from the Noſthrils to the utmoſt tip. Its ſides towards the point are ſomething rough, and as it were ſerrate, for the faſter holding of ſlippery fiſhes. The lower Mandible is more yellow: The ſides of both are thinned into very ſharp edges. The Mouth gapes wide. The Tongue is ſharp, long, but not hard. The eye-lids, and that naked ſpace between the Eyes and Bill, are green. The Noſthrils are oblong narrow chinks.

The Legs and Feet are green: The hind-part of the Legs and ſoals of the Feet greener. The Toes very long. The outmoſt foretoes are joyned to the middle by a membrane below. The inner edge of the middle claw is ſerrate, which is worthy the notice taking.

Its Stomach is large and flaggy, rather membranous than muſculous, as in carnivorous birds, in which diſſected we found * *Ivy-leaved Duckmeat.* The Guts towards the Vent, where the blind guts are ſituate, are larger than in other birds. It hath not two blind guts, one on each ſide, like other birds, but only one, like Quadrupeds, but that bigger and thicker than ordinary. The Gullet under the Chin is dilated into a great wideneſs. In the middle of the Merry-thought is an *Appendix.* It hath a long Gall-bladder. *Geſner* counts but eleven Vertebres in the Neck; I obſerved fifteen, of which the fifth hath a contrary poſition, *viz.* is * reflected upward. It feeds upon Fiſhes, Frogs, *&c.* Oftentimes alſo it ſtrikes and wounds greater fiſhes than it can draw out and carry away. Young *Herons* may be fatted with fiſh guts and entrails, fleſh, *&c.* It ſits ſometimes with its Neck ſo bent up, that its Head is drawn down to ſtand between its ſhoulders.

* *Lenticula aquatica triſulca.*

* In another place Mr. *Willughby* puts it among his queries, whether the five upper vertebres in the Neck of a Heron be reflected the contrary way.

Theſe Birds build ſometimes on the tops of great trees, and for the moſt part many together. But whether they are wont to build in old *Rooks* Neſts, as *Aldrovandus* out of *Polydore* relates, I leave to further enquiry.

We have Heronries in *England* ſuch as they have in *France*, however *Bellonius* denies it: In which *Herons* are ſo well inſtructed and accuſtomed to breed, that the owners make yearly a good profit of the young.

§. II.

Aldrovandus his third ſort of aſh-coloured Heron.

THis *Heron* which I make congenerous to the common cinereous, from the tip of the Bill to the end of the Feet was thirty ſix inches, or four foot long: Had a Bill an inch thick, of the length of a * Palm; near the Noſthrils of the breadth of ones little finger, channel'd within; beneath of a horn and roſe colour. The *Iris* of the Eye yellow, the Pupil black. The Neck was a full ſpan long. The feathers of the Head, Neck, Back, and upper ſide of the Wings of a dusky aſh-colour: All their ends marked with a red ſpot: But the great Wing-feathers are variegated with white at their tips; and alſo thoſe which make up the Tail, which is a Palm and half long. Thoſe which cover the Breaſt are ſprinkled with longer marks of black, red, and white. The Belly is of a pale aſh-colour, almoſt white. The Hips or Thighs are ſomewhat red; and for the ſpace of an inch above the * knees bare of feathers. From theſe to the ends of the Claws remains the meaſure of two Palms. The Legs are greeniſh, and the Feet cloven into Toes, which yet at the beginning of the divarication

* I ſuppoſe he means *Italian* meaſure, not an hand breadth.

* The word is *Poplites*, which may be Engliſhed Hams.

divarication are joyned together by a ſhort membrane, becauſe it muſt needs be converſant about waters. The Claw of the back-toe is greater than the reſt. Upon the tips of the feathers of the Head ſtuck certain ſmall, tender, white capillaments; which argued this to be a young bird.

§. III.

The leſſer aſh-coloured Heron, called by the Germans, The Night-raven.

IT is much leſſer than the precedent, and hath a ſhorter Neck. Its Back and the crown of its Head are black; its Neck aſh-coloured. Its Throat and Belly tinctured with yellow. A white line is extended from the Eyes to the Bill. From the hinder part of the Head it hath a Creſt of three feathers five inches long hanging down over the Back, whereby it is differenced from all other birds. Its Wings and Tail are cinereous: Its Bill black: Its Legs and Feet of a yellowiſh green.

At *Sevenhuys*, a Village in *Holland* in a fenny Country, not far from *Leyden*, we deſcribed a young bird of this kind (as I ſuppoſe) taken out of the Neſt, thus. Its Legs and Feet were green; and thoſe bare of feathers for about an inch above the knees. The outmoſt Toe connected with the middle one by an intervening membrane from the divarication to the firſt joynt: The Claw of the middle Toe ſerrate on the inner ſide, as in the common *Heron*. The Eyes of a lovely yellow. In the colour of its body it comes nearer to a *Bittour* than to the common *Heron-ſhaw*. Two rows of the greater Wing-feathers are black, with white tips. The Tail is of a dusky aſh-colour, the tips of its component feathers being alſo white. The Back and Neck-feathers are black, with red ſhafts, or red lines in the middle. In the Neck the red lines are broader. The tips of the leſſer covert feathers of the Wings decline from white to red. The Belly is white, with black ſpots: The Chin white: The feathers on the Throat on one ſide white, on the other black. After it hath mew'd its firſt feathers without doubt it changes its colour, as moſt other birds do. It hath a great Gall; a large Stomach, glandulous within, but not fleſhy or muſculous (which kind we in *Engliſh* call a Gizzard) in it were the ſhells of Beetles. In the middle of the bone called the *Merry-thought* is an *Appendix*. This Bird lays white Eggs.

The *Germans* call it, *Nacht rab*, that is, *Night-raven*, and under that title it is figured and deſcribed by *Geſner*, whence * *Aldrovandus* propounds it under the title of *Night-raven* for a diſtinct ſpecies of bird, ſubjoyning it to the *Corvus Sylvaticus* of *Geſner*. It is called *Night-Raven*, becauſe in the night time it cries with an uncouth voice, like one that were ſtraining to vomit.

* *Ornithol.* lib. 19. cap. 57.

§. IV.

The great white Heron. Ardea alba major.

IT weighed forty ounces. Its length from the tip of the Bill to the end of the Feet was fifty three inches and an half; to the end of the Tail no more than forty. Its breadth, as we reckon it, between the tips of the Wings extended ſixty inches and an half.

Its colour was all over as white as ſnow. The number of the main feathers of its Wings was about twenty ſeven; of its Tail twelve: The length of its tail ſix inches and an half. It had no Creſt. Its Bill, as in the common *Heron*, was yellowiſh. The edges of its Eye-lids, and that naked ſpace between the Eyes and Bill green. The Eyes of a pale yellow. The Legs for ſome ſpace above the knees bare of feathers. The Feet and Talons black: The outer fore-toe connected with the middle one from the divarication to the firſt joynt by an intervening membrane. The Claw of the middle toe had its interiour edge * ſerrate.

* Sawed or toothed.

The figure of the Breaſt-bone was arcuate [bending like a Bow] as in other *Herons*. The vertebres of the Back were ſix or ſeven: Thoſe of the Neck to the fourth were bent downwards, all the reſt upwards. It had a great Gall: A triangular *Appendix* on the *Merry-thought*. Of its fat is made Oil good for the wind, *&c.*

This differs from the common *Heron*, 1. In magnitude, as being leſſer than that. 2. In the length of its Tail. 3. In that it wants a Creſt. A certain *Engliſh* man (ſaith *Aldrovand*) affirmed, that he had ſeen white *Herons*, though but rarely, which neither in bigneſs of body nor ſhape differed at all from the common *Heron*, but only in colour.

colour. I ſuſpect this Relator whoſoever he was, was miſtaken, accounting the bird in this article deſcribed by us not to differ from the common *Heron-ſhaw* but only in colour. For Mr. *Johnſon*, who hath ſeen the *white Heron* in *England*, puts it down for a diſtinct kind in his Method of Birds communicated to us.

§. V.

The leſſer white Heron: Ardea alba minor.

BEing weighed it ſcarce amounted to one pound. From the tip of the Bill to the end of the Tail it was twenty four inches and an half long, to the end of the Legs thirty two and an half. It is all over of a pure white colour, like the bigger. From the hinder part of the Head hangs down backward a ſhort Creſt. About the Eyes the skin is bare of feathers, and of a green colour. The Bill is four inches and an half long, and black. The Eyes are of a pale yellow. The Tongue ſhort: The Feet green; but ſometime covered with a black, ſcaly bark, which may eaſily be rubbed or ſcraped off. The Legs are bare of feathers ſomething above the knees, and up higher than in the former kind. The outer fore-toe is connected with the middle from its riſe to the firſt joynt by an intervening membrane. The middle Talon is toothed, as in the reſt of this kind. It hath alſo but one blind gut, like them; and a great Gall.

It differs from the precedent white *Heron* in being much leſſer, and in having a creſt, which that wants.

We take this to be the ſame with the ſmall white *Heron* or *Garzetta* of *Geſner* and *Aldrovand*, and with *Bellonius* his *Aigretta* of the *French*, although the deſcriptions differ in ſome particulars.

Geſner ſaith, that the feathers of the Creſt are long, and ſold at a great rate. But *Bellonius* and *Aldrovandus* write, that theſe feathers, which Noblemen and great Commanders are wont to ſtick in their Caps and Head-pieces for ornament, and which are ſold very dear in the Cities ſubject to the *Turk*, do not grow on the Head, but on the Back, at the ridge of each Wing. Our Bird, which we bought in the Market at *Venice*, had no ſuch feathers; perchance they had been before pluckt off, and concealed by the Fowler that ſold us the bird.

The ſecond leſſer white *Heron* of *Aldrovandus* is the very ſame with this, called alſo *Garzetta* in the Valleys of *Malalbergo*, as will manifeſtly appear to him that will but take the pains to compare the deſcriptions. *Aldrovand. tom.* 3. *pag.*93. deſcribes it thus. It is a bird all over white, excepting the Legs and Bill, which are black. Its Bill is long, ſlender, very ſharp-pointed, all of one colour. Between the Eyes and Bill is a certain ſpot of green. The Pupil of the Eyes is black, encompaſſed with a yellow or golden circle, and that again with a black. The Neck and Legs, as in other *Herons*, are long; ſo are alſo the Toes, but yellow. The back-toe is the leaſt of all: The middlemoſt of the fore-toes longeſt, and that on the right ſide of it next in length. The Claws black and ſharp. The Wings very great; the Tail ſhort; the Body ſlender and little.

This, I ſay, is without all doubt the ſame with our ſmall white *Heron*; neither (as I judge) doth it differ from the *Garzetta* of *Aldrovand*, before deſcribed, in any thing but in age, for that was a young bird. In this there is no mention made either of the Creſt, or of thoſe rare feathers growing on the Back. Perchance they were by the Fowlers, (who knew well enough their value) plucked off from both *Aldrovands* bird and ours.

§. VI.

* *The third ſmall white Heron of Aldrovand.*

IT is leſſer than the precedent, but more fleſhy. Its Bill ſmall, thick, ſharp-pointed, all yellow. The top of the Head and Neck are almoſt of a Saffron colour; which, though more remiſs, is ſeen alſo in the Breaſt. The Neck is ſhorter than in other *Herons*. The Eyes are ſituate as it were in a certain yellow ſpot: Their *Irides* are yellow, encompaſſed with a black circle. The Thighs and Legs are long, of a yellow colour, inclining to *Saffron*. The Toes are, in proportion to the body, bigger than in other *Herons*, very long, dusky, encompaſſed alſo with whitiſh annulary ſcales.

Two

Two of the fore-toes are joyned together by a ſmall membrane, as in the reſt. Its Claws are long, very ſharp, and hooked: That of the middle toe, longer than the reſt, is ſerrate, as in the *Bittour*. The Tail is not very ſhort.

Beſides this *Aldrovand* figures another with a ſhort, thick, ſharp Bill, very long toes, the fore ones dusky: The head inclining to Saffron-colour: The Bill and Legs yellow. Elſe the whole bird is white.

§. VII.

* *The red-leg'd Heron, or* Cirris *of Virgil according to Scaliger. Aldrov.* tom. 3. p. 398.

THis is leſſer than all other *Herons*, and hath alſo a very ſhort Neck: The whole bird almoſt from Saffron inclining to a Cheſnut colour; on the underſide deeper, on the upper ſide and Wings paler. The Tail is ſo little that it ſeems altogether to want one. The Pupil of the Eye is encompaſſed with a yellow circle, that with a * ſcarlet one, and this again with a black. Very beautiful feathers, partly yellow, and partly black, ariſing from the forehead hang down all over the upper part of the Head and Neck. The Bill is ſtrong, long, ſharp, of two colours, where it joyns to the head green, or from green inclining to blue; and this colour reaches as far or farther than the middle of the Bill, the remaining part being black. The Legs and Feet are of a deep red colour as in many *Pigeons*: The Talons black. The Toes very long, and joyned with a ſmall membrane, or ſome rudiment of it.

* The word is *miniaceus*, which ſignifies the colour of red lead.

Beſides, he ſets forth the figure of another in all things like this, ſave that the ſame colour in the body is more remiſs, the Feet yellowiſh, the Neck on the ſides beſprinkled with many black ſpots; which are not in the other.

§. VIII.

* *The Heron which they call* Sguacco *in the Valleys of* Malalbergo. * *Aldrov.*

* *Ornithol.* tom. 3. p. 400.

IT hath tufts of feathers on the head almoſt of the ſame colour with the immediately precedent; to which alſo it is in bigneſs almoſt equal, or a little leſs. Its Bill is ſhorter than in that, but ſtrong, of the ſame colour with the whole Back, *viz.* of a yellow ferrugineous. The *Iris* of the Eye is of a golden colour, encompaſſed with a black circle. The whole Head and Neck are particoloured of yellow, white, and black. Underneath on the belly it is white, as is alſo the Tail, and better part of the Wings. The Thighs are yellow: The Legs and Toes are greeniſh, as in ſome *Water-hens*. They ſay it is a bold and couragious bird.

§. IX.

The Heron called Squaiotta *at Malalbergo. Aldrovand.*

IT hath a yellow Bill, black at point, a ſhort Tail, green feet. The tuft on the Head conſiſts of thirty feathers, the middlemoſt of which are white, and the outermoſt black. There grow alſo on its Back of that ſort of elegant feathers before mentioned, of a red colour, and black at their roots. * Both perchance have their names from their cry.

* *Sguacco & Squaiotta.*

§. X.

* *Another ſmall Heron with a bow-bill,* Aldrovand.

THe Bill of this is more * arcuate than in any of the precedent. On the nether ſide the Neck and Breaſt (which is ſpirinkled with black ſpots tending downwards) are white. Elſe the whole bird is of an aſh-colour, underneath paler, above deeper. The Thighs in this Bird, contrary to what they are in others of this kind, are covered with feathers.

* Bending like a Bow.

§. XI.

* *The Bird of kin to the Heron described by* Aldrovand, *t.*3. *p.*412.

* Of the same kind or Family.

THis sort of Bird, though it hath a much shorter Bill, I have made * congenerous rather to the *Herons* than other birds, and am wont to call it the *black Heron*, because in its meen, and the fashion of the rest of its body, it resembles the *Heron*-kind. For it hath a long Neck, long Legs, very long Toes, sharp Talons, and finally, a short Tail. Its colour is all over uniform, *viz.* blackish, except the Neck, which is compassed with a whitering, and the Bill which is yellow, in the middle, and at the end, as well above as below, marked with a black spot.

It hath not as yet been our hap to see these six last birds, and so we have nothing to add to their descriptions, which we have borrowed of *Aldrovandus*.

§. XII.

The Bittour or Bittern or Mire-drum : Ardea stellaris, Taurus *of Pliny, called by later Writers* Butorius *and* Botaurus, *and by Aristotle also* Ocnus.

IN bigness it falls not much short of the *common Heron-shaw*. Its length from the tip of the Bill to the end of the Claws is thirty eight inches, to the end of the Tail twenty nine. Its Head is small, narrow, or compressed at sides : The crown black : At the angles of the mouth on each side is a black spot. The Throat and sides of the Neck are red, with narrow transverse black lines. The Neck being cloathed with very long feathers, seems to be both shorter, and much greater than indeed it is. The long feathers on the Breast are black in their middles. The inner part of the Thighs and the lower Belly are white, with a light tincture of red. The outsides of the Thighs are variegated with black spots. The Back is particoloured, of pale red, or *feuille mort* and black, [with cinereous also mingled,] the black spots being greater there than in the rest of the body. The bottoms of the feathers on the Throat are white. The great or quill-feathers of the Wings are shorter than in the common *Heron*. The tips of the greater feathers are black, else they are all variegated with transverse red and black lines. The lesser rows of Wing-feathers are of a paler red. The Tail is very short and little, made up of ten feathers of the same colour with the Wing-feathers.

The black stroaks or marks between the shoulders are broader, and tend downwards; but the red colour is paler, languishing into a yellow. Its Bill is streight, strong, thick at the Head, and growing slenderer by degrees to the point, of a greenish colour, and having sharp sides or edges. The sides of the lower Mandible fall within the upper, when the Mouth is shut. The upper Chap hath a long cranny, or furrow, or channel excavated on each side, wherein are the Nosthrils. The Tongue is sharp, not cloven, reaching scarce to the middle of the Bill. The *Irides* of the Eyes from hazel incline to yellow. [In another bird they were red.] The slit of the Mouth is very wide, running out beyond the Eyes toward the hinder part of the Head, so that the Eyes seem to be situate as it were in the very Bill. Under the Eyes the skin is bare of feathers, and of a green colour. The Ears are great, and wide open.

The Shanks are bare a little above the knees : The Feet green : The Toes great, and very long, armed also with long and strong Talons; that of the middle Toe serrate on the interiour edge, in like manner, and for the same purposes, *viz.* of holding fast Eels, and other slippery fish, as in the rest of this kind. The back-claw, which is remarkably thick and long above the rest, is wont to be set in Silver for a Pick-tooth, and is thought to have a singular property of preserving the teeth. The outmost fore-toe is joyned to the middlemost at bottom by a membrane.

They say, that it gives always an odd number of bombs at a time, *viz.* three or five: Which in my own observation I have found to be false. It begins to bellow about the beginning of *February*, and ceases when breeding time is over. The common people are of opinion that it thrusts its Bill into a Reed, by the help whereof it makes that lowing or drumming noise. Others say, that it thrusts its Bill into the water, or mud, or earth, and by that means imitates the lowings of an Ox. It hides it self commonly among reeds and rushes, and sometimes lies in hedges with its Neck and Head erect.

In

In the Autumn after Sun-set these birds are wont to soar aloft in the air with a spiral ascent so high till they get quite out of sight: In the mean time making a singular kind of noise, nothing like to lowing.

As for the interiour parts, The annulary cartilages of the Wind-pipe after its divarication, are not entire [or perfectly round] but only semicircular: The other part of the circle being supplied by a thin, loose membrane: They stand also at a greater distance one from another than before. The Liver is divided into two Lobes, and hath its Gall-bladder annexed. The interiour membrane of the Stomach is wrinkled, and full of papillary glandules. Beneath the lower Orifice of the Stomach was as is were a secondary stomach, of a singular structure, and of the figure of the Letter ∞, having a thick coat, and being rugged and uneven with folds or wrinkles within. The first stomach was lax and membranous rather than musculous, like a Dogs stomach, as *Bellonius* rightly compares it. It hath no Craw: Only one blind gut, like the rest of this kind, half an inch long. The Gullet just below the Bill may be vastly dilated, so as to admit a mans fist. In the stomach dissected we found the fur and bones of Mice. Instead of the transverse ribs are only small *Appendices*. The Vertebres next the Head are bent downwards, all the rest upwards. The Breast-bone is * arcuate. The angle or aperture of the Breast-bone is filled up with a thin, loose, pellucid membrane. The Gullet and Windpipe descend down the right side of the Neck. It hath also a bony *Appendix* in the angle of the *Merry-thought*, but less than the common *Heron*.

* Bending like a Bow.

It is called by later Writers, *Butorius* and *Botaurus*, because it seems to imitate *boatum tauri*, the bellowing of a Bull. The Author of *Philomela* calls it *Butio*: But his mistakes are so many, that no account is to be made of his authority. Some have made it to be the *Onocrotalus*, because of its voice; which, to say the truth, seems to me much more to imitate the braying of an Ass than the lowing of a Bull: But *Pliny* hath so exactly described the *Onocrotalus*, that no man that shall compare the notes with the bird, can possibly doubt that it is that we commonly call the *Pelecan*: Though those that have seen and observed it, never heard it make any such braying noise when kept tame: Which is something strange; unless perhaps being discontented with its captivity, it delights not to make that noise it doth when at liberty. The *Bittern* is said above all other birds to strike at mens eyes. It builds upon the ground, commonly in a tuft of Rushes, lays four or five Eggs, of a round figure, and whitish colour, inclining to cinereous or green, not spotted at all.

This without doubt is that bird our common people call the *Night-raven*, and have such a dread of, imagining it cry portends no less than their death, or the death of some of their near Relations: For it flies in the night, answers their description of being like a flagging Collar, and hath such a kind of hooping cry as they talk of.

§. XIII.

* Aldrovandus *his third sort of speckled Heron.*

THis Bird, sent from *Epidaurus*, was all over of one and the same colour, to wit, reddish, deeper above, lighter underneath. This same, or at least one very like to it, taken in our Fens, had a Bill a palm long, of a horny colour, streight, and sharp-pointed. The upper Mandible was a little hooked at the end, and longer than the nether, with some blackness. The crown was black: The Neck ferrugineous, two palms long: The Back was black, and so was the Tail, which was very short; the Rump beneath white: The Wings partly ferrugineous, partly white. The Legs nine inches long. The *Iris* of the Eyes was yellow. This seemed as yet to be a young bird, that had not mewed its first feathers.

§. XIV.

The greater speckled or red Heron of Aldrovand.

THis seems to be a bastard kind between the *Bittour* and the *common Heron*, but to partake more of the common *Heron*, whence it would be more rightly intituled, *The ash-coloured or blue Heron with red breast and sides.*

In its bigness, shape, and serrate Claw it agrees with the common *Heron*. The crown of its Head is black, adorned with a long Crest: Its Back ash-coloured, but darker than the common *Herons*. On the shoulders grow long, red, bristly hairs.

The leſſer covert-feathers of the inner ſide of the Leg are red. The Thighs are white, daſhed with red. Near the Breaſt on both ſides is a broad red ſtroke. The middle of the Throat is particoloured, with black and pale red ſpots. Down the ſides of the Neck is a black line in the middle of two red ones. The lower part of the Neck under the long feathers was of a deep red. In other particulars it agreed with the *common Heron.* It had but one ſingle blind-gut: A huge Gall-bladder. The Ribs tend ſtreight downwards from the vertebres of the back, like thoſe of Quadrupeds. The Guts are ſmall and ſlender. The remnant of the paſſage conveying the Yolk into the Guts is plainly to be ſeen in the form of a blind gut, about the middle of the inteſtines, the Pipe conveying Gall from the Gall-bladder to the gut, and the **porus bilarius* do not concur in one common paſſage, but continue their channels ſeveral and diſtinct, and perforate the Gut in two places, but near one to the other.

* The gall-duct or vein conveying gall from the Liver.

§. XV.

* *The Braſilian* Soco *of Marggrave.*

IT is a Water-fowl, of which here [in *Braſil*] many ſorts may be obſerved. It is of the bigneſs of the leſſer *Heron:* Hath a ſtreight, black, and ſharp-pointed Bill, two inches and an half thick where it is thickeſt. Its Head is like a *Herons*, as is alſo its Neck, being a foot long: Its Eyes black with a *golden circle. The Wings and Tail are equally extended, ending together. For the Tail is ſhort, being not of above five inches length. The Legs are ſufficiently long, above the knees four inches, and as many below. Each foot hath four Toes, three ſtanding forwards, and one backwards. The Thighs above the Knees are above half way bare of feathers, covered with a dusky skin. The Head and Neck are cloathed with brown feathers, variegated with ſmall ſpecks. Along the lower ſide of the Neck down as low as the Breaſt is a line drawn of white feathers, mixt with black and brown ones. The Back and Wings are indeed black, but variegated or powdred with very ſmall yellow ſpecks or points. The Belly is of the ſame colour with the Back. Under the Wings are black feathers, ſpotted with white.

* I ſuppoſe he means the Pupil black, and the *Iris* golden.

§. XVI.

* *The Braſilian Heron called* Cocoi *of Marggrave.*

IT is an elegant bird, of almoſt the bigneſs of a *Stork:* Hath a ſtreight, ſharp Bill, about ſix inches long, which is of a yellowiſh green at its riſe: Cryſtal Eyes, with a golden circle; the skin about the Eyes bare, and aſh-coloured. The length of the Neck is fifteen inches, of the Body ten, of the Tail five. The Tail and Wings equally extended. The upper Legs are feathered half down, being eight inches long; the lower are but ſix and an half, covered with an aſh-coloured skin. The Feet have four Toes, diſpoſed in the uſual manner; the middle the longeſt, the reſt ſhorter, all armed with crooked dusky Claws. The Throat and all the Neck are white: The top of the Head and ſides of a black colour, mixt with cinereous. It carries [on the Head] an elegant, erect creſt of the ſame colour, from which two neat feathers hang down backwards, of a black colour, inclining to cinereous, each five inches and an half long. The foreſide of the Neck is ſpotted longways [or down its length] with feathers mixt of black and cinereous. In the lower part of the Neck before, it hath long, white, fine delicate feathers hanging down, which we were wont to wear in our Caps. The whole Back, Wings, and Tail are of a pale aſh-colour, mingled with a little white. The upper half of the Legs upper is inveſted with white feathers. Along the length of the Back are extended fine elegant, aſh-coloured feathers, for their figure and ſtructure like thoſe on the Neck. It is good meat.

§. XVII.

§. XVII.

* *The Braſilian Heron, with a ſerrate Bill, of Marggrave.*

IT is of the bigneſs of a *tame Duck*, or a little bigger: Hath a ſtreight, ſharp Bill, the fore-half, as well above as beneath, doubly ſerrate, four inches and an half long. It hath the Head and Neck of a *Heron*; a black Pupil, with a golden circle: Its Neck is a foot long; its body five inches and an half; its Tail four, wherewith the Wings end. The whole Legs are nine inches and an half long: The upper, to the middle part only, covered with feathers, the lower half being bare. In each Foot four Toes, after the uſual manner. The upper Bill is dusky, but toward the riſe of a yellowiſh green. The whole Head, and upper ſide of the Neck are covered with long feathers, of a pale yellow colour, waved with black. Under the Throat it is White. The Neck beneath, the Breaſt and lower Belly have white feathers, waved with brown, which [brown] is round about edged with yellow. The whole Back and Wings are covered with dusky feathers, waved with yellow. The quil-feathers of the Wings are mixt of equal parts of black and green, their tips being white. The Tail conſiſts of ſuch feathers as the ends of the Wings, but croſſed with white lines. The Legs and Feet are of a dark grey colour. The Claws dusky. Its fleſh is eaten, and taſtes like that of other *Herons*.

§. XVIII.

* Guiratinga *of the Braſilians, called by the Portugues* Garza, *that is, a Heron.* Marggrave.

IT is of the bigneſs of the *Spoon-bills* or *Pelecan* of *Geſner*, and the ſame ſhape of body. It walks erect, with its long Neck and extended Bill, which is ſtreight, ſharp, yellow, four inches long, the upper part thereof black, the lower white. It hath long Legs like a *Heron*, of about ſix inches. The Toes are after the uſual manner. The Legs outwardly, as alſo the Feet, are yellow, inwardly mixt of green and dusky. The whole body is covered with milk-white feathers. On the neck are moſt elegant white feathers, more fine than *Oſtriches*. It is a Water-fowl, and its upper Legs are [for ſome ſpace] bare of feathers.

§. XIX.

* *A ſmall Braſilian Heron of* Marggrave.

IT is ſcarce ſo big as a common *Pigeon:* Hath a very long Neck; a ſtreight, ſharp Bill, dusky above, of a yellowiſh white beneath, two inches and an half long: A ſhort, ſharp Tongue: Eyes of a mean ſize, with a black Pupil, and a yellow circle: A ſmall Head; a ſlender Neck, but ſeven inches long, whereas the length of the Body is ſcarce four: Long Legs, each five inches; the * upper half bare of feathers half way: Four Toes in each Foot, placed the common way, with crooked and ſharp Talons. As for its colour, near the Eyes, where the Bill is inſerted the skin is of a yellow [*melini.*] The Head above is covered with feathers of a ſteel-colour, with pale brown ones intermingled. The whole Neck, with the Breaſt and lower Belly have a white Plumage, mixt with cinereous and pale feathers, ſo that they appear variegated. The Back is black, and partly of a Steel colour, with pale brown feathers intermingled. The long Wing-feathers are greeniſh, having a white ſpot on their tips. The reſt of the Wing is elegantly variegated of brown, ſteel-colour, wax-colour, and aſh-colour. The Tail is two inches long, covered with the ends of the Wings, which are equally extended with it. The Legs above are mingled of aſh and wax-colour. The naked part and the Feet are covered with a yellow skin. The Claws brown. This bird walks erect and ſtately.

* This part of the legs others call the thighs, though indeed it anſwers moſt properly to the legs in man, being the ſecond internodium from the foot.

Chap. II.

Of the Stork. De Ciconia.

§. I.

The common or white Stork: Ciconia alba.

IT is bigger than the common *Heron:* Its Neck thicker and shorter than the *Herons:* Its Head, Neck, and fore-part white: The Rump and outside of the Wings black: The Belly white. The quil-feathers of the Wings black: The Tail white: The Bill long, red, like a *Herons* Bill. The Legs long, red, bare almost to the Knees or second joynt from the Foot. The Toes from the divarication to the first joynt connected by an intervening membrane. The Vertebres of the Neck are fourteen in number. Its Claws are broad, like the nails of a man; so that πλατυώνυχος will not to be sufficient to difference a man from a *Stork* with its feathers pluckt off. *N. B. Herodotus* attributes such like Claws to the white *Ægyptian Ibis*. The Claw of the middle Toe is not serrate. It is seldom seen in *England*, and not unless driven over by a storm of wind, or some other accident. My honoured Friend Sir *Thomas Brown* of *Norwich*, a person deservedly famous, for his skill in all parts of learning, but especially in natural History, sent me a Picture of one of these birds taken on the Coast of *Norfolk*, drawn by the life, with a short description of it, as follows. It was about a yard high: It had * red Bill and Legs; the Claws of the Feet like humane Nails. The lower parts of both Wings were black, so that when the Wings were closed or gathered up, the lower part of the Back appeared black. Yet the Tail, which was wholly covered and hid by the Wings (as being scarce an inch long) was white, as was also the upper part of the Body. The quills were equal in bigness to *Swans* quills. It made a snapping or clattering noise with its Bill, by the quick and frequent striking one Chap against the other. It readily eat Frogs and Land-snails which we offered it; but refused Toads. It is but rarely seen on our Coasts. So far Sir *Thomas Brown:* Whose description agrees exactly with ours in all points.

* Of a red lead colour.

The white *Stork*, saith * *Joannes Faber*, is very rare in *Italy*: All these twenty eight years that I have spent at *Rome*, I never but once saw a white *Stork*, and then but one, on the top of the Tower, called *Torre de Conti*, I know not by what wind driven thither. *Aldrovandus* also himself an *Italian* born, and then a very old man, confessed that he had never seen a *white Stork*, for that the Territory of *Bologna* did neither breed nor feed them. But sith it is most certain, that *Storks* before the approach of Winter fly out of *Germany* into more temperate and hot Countries, very strange it is, *Italy* being contiguous to *Germany*, and hotter than it, that they should not fly thither, at least pass over it in their flight Southward.

* In his Annotations on *Recchus* his Animals.

I know them (saith the same *Faber*) who have learned by ocular inspection, that *Storks* and *Peacocks*, when such Serpents as they swallow passed alive through their bodies, (as they will do several times, creeping out at their Fundaments) use to set up their Rumps, and clap their Tails against a wall so long, till they feel the Serpents dead within them.

§. II.

The black Stork. Ciconia nigra.

IT is equal to the *white Stork*, or but little less than it. Its Head, Neck, Back, and Wings are black, with a certain gloss or mixture of green, not unlike the colour of a *Cormorant:* Its Breast, Belly, and sides are white. The Bill green: The Legs also green, and bare of feathers up to the Knees or second joynt from the Foot. The membrane connecting the Toes reaches on the outside as far as the first joynt of the middle Toe, not on the inside. The young ones when they want meat make a noise not unlike to *Herons*. We saw this Bird first near *Frankefurt* on the *Main*, after at *Strasburgh:* We suppose those we saw were young ones, for that their Bills and Legs were green, whereas in that which *Faber* described they were red.

Jo. Faber

*Jo. Faber** describes this Bird very diligently and exactly thus: Its length from the point of the Bill to the Feet was six† spans and an half: The measure was the same of the Wings extended. The Bill alone (wherein was seen a short reddish Tongue) was a *Roman* foot long: The Legs two spans. The Gullet was of that capacity or wideness, that the Bird being hanged up by the Feet, a great Frog dropt out of the mouth of its own accord, without any force, and four more were found entire in its stomach. In which stomach, made of hard flesh, were many Frogs bones, and a certain dry lump not unlike dung. The Neck was a span and half long: The Legs and Feet meager. The colour of the Wings and all the Back blackish, as far as the lower Belly. This black is mixt with a dark bluish and purple, the dusky colour being predominant, especially in the greater feathers of the Wings. The Neck recedes further from the colour of the Back, and doth wonderfully delight the Eyes with a most grateful mixture of blue, purple, and green; such as is observed in the necks of *Pigeons* and *Mallards*. And because only the lower region of the Belly, beginning far below the Breast, hath white and soft feathers; the whole Bird is rather to be denominated black than white. The orbits of the Eyes, the whole Bill, Legs, and Feet are of a most pleasant scarlet red, or * vermilion colour. All which things put together, *viz.* the stately structure of the whole body, and that symmetry of various and pleasant colours, render this Bird very elegant and beautiful to behold. It is not altogether whole-footed like a *Duck*, yet the three fore-toes are joyned together halfway by a tough membrane; the back-toe or keel being pretty long, and armed with a strong Talon. These birds frequent Fens, Lakes, and Sea-shores; into these waters they run, intent upon their prey, sometimes also diving under water, maintain themselves by fishing, as I am assured by our Fowlers upon their credit. This Bird is not very frequent at *Rome*, yet is it sometimes exposed to sale among other Sea-fowl. Its flesh hath such a fishy taste and stench, that being thrown to our Cat, she refused it, and would not touch it. *He endeavours to prove this Bird to be the Mergus of Ovid.* See the Author.

* In his Annotations upon *Recchus* his Animals.

† The Latine word is *Spithame*.

* Resembling the *minium* of the Ancients, or our *cinnabar*.

All *Storks* make a clattering or snapping noise with their Bills, by clapping one Mandible nimbly against the other. They are said to live only in Republics and free-States; but this we found by experience to be false, observing them in the Territories of some Princes in *Germany*. There is a tradition also that they feed and nourish their Parents in their old age, when they are unable to seek their own food: Whence the word ἀγλεπελαργία, signifying the duty of Children in requiting and maintaining their aged Parents.

§. III.

* *The American Stork, called by the Brasilians* Maguari *of Marggrave.*

IT is a Bird lik to the *Stork* in figure, and bigness, and partly also in colour. It hath a Neck a foot long: A streight, sharp Bill, of nine inches length; long, naked Legs, like the *Stork*; a short Tail reaching no further than the Wings. Its Bill at botom half way up is of a yellowish green: The other half being of a bluish ash-colour. It hath small, silver-coloured Eyes with a black Pupil, and about them a Vermilion-coloured skin, and the like also below, near the rise of the Bill, or between the Bill and the Throat, which when she is angry she lets hang down under the Throat after the manner of the *Senembi*. The whole Head, Neck, and all the body is covered with pure white feathers; and on the lower part of the Neck those white feafeathers are of a good length. The Tail also is white, but above covered with certain black feathers. The Wings at setting on are covered with white feathers, but near the Back with black; which black hath a gloss of green. It Legs and Feet are red and like a *Storks*. It snaps also with its Bill like our Country *Stork*. Its flesh is esculent.

Chap. III.

* *The* Ibis *of Bellonius.*

FOrmerly (saith he) we took the *black Ibis* to be the *Hæmatopus:* But observing its manners and conditions, we found it not to be the *Hæmatopus*, but the black *Ibis*, which *Herodotus* first mentioned, and after him *Aristotle.* It is of the bulk of the * *Curlew*, or a little less, all over black: Hath the Head of a *Cormorant.* The Bill where it is joyned to the Head is above an inch thick, but pointed toward the end, and a little crooked and arched, and wholly red, as are also the Legs, which are long, like the Legs of that Bird which *Pliny* calls *Bos taurus*, *Aristotle* names *Ardea stellaris.* It hath a long Neck like a *Heron*, so that when we first saw the black *Ibis*, it seemed to us in the manner and make [*habitu*] of its body like the *Bittour.*

* *Elorius.*

This kind of Bird is said to be so proper to *Egypt*, that it cannot live out of that Country, and that if it be carried out it dies suddenly.

The *Ibes* are birds very useful to the *Egyptians*, for destroying Serpents, Locusts, and Caterpillars, with which that Country is greatly infested; and therefore divine honours were given them. The *Ibes* (saith *Cicero*) dispatch a power of Serpents. They turn away a great Plague from *Egypt*, when they kill and consume those flying Serpents that are brought in thither by the West wind out of the Deserts of *Libya.* Whence it comes to pass, that they do no harm either alive by their biting, or dead by their stench. For which cause the *Ibes* are invocated by the *Egyptians.* What else the Ancients have delivered concerning the *Ibis*, see in *Aldrovandus.*

Chap. IV. §. I.

The Spoon-bill. Platea sive Pelecanus *of Gesner.* Leucorodius sive Albardeola *of Aldrovand.* Lepelaer *of the Low Dutch.*

THat which we described was a young one taken out of the Nest. It weighed forty five ounces and an half. Its length from the tip of the Bill to the end of the Claws was thirty four inches, to the end of the Tail twenty four. The colour of the whole body was Snow-white like a *Swans.* Beyond the Eyes toward the Bill grow neither feathers nor down, as in the *Heron* and *Cormorant.* The angle also of the lower Chap is bare, which perchance is peculiar and proper to this Bird.

The first quil-feather of the Wing is black; of the second only the exteriour Web, or outer half from the shaft; and the tip of the interiour are black; of the third only the top, and of the fourth yet less. In like manner the tips and shafts of the inferiour feathers of the second row were black. The Tail is very short, *viz.* three inches and an half, made up of twelve feathers.

The Bill is of a singular and unusual figure, plain, depressed, and broad, near the end dilated into an almost circular figure, of the likeness of a Spoon, whence also the Bird it self is called by the *Low Dutch*, *Lepelaer*, that is, *Spoon-bill.* The broad part of the Bill is graven with twelve or fourteen lines or crevises; but its inward surface is smooth and even, without any such sculptures or gravings. The Bill in the young ones before they be grown up is white, or of a flesh-colour, in old ones black. The Tongue is sharp and little. The Legs half way up the second joynt are bare of feathers; in the young ones of a whitish colour. The Feet strong: The fore-toes joyned together by a membrane; the outmost and middlemost to the second joynt, the middlemost and inmost no further than the first. The Toes and Claws black.

We did not observe in our Bird those reflections of the Wind-pipe, which *Aldrovandus* mentions, describes, and figures. It had a large Gall: The Guts had many revolutions. Above the Stomach the Gullet was dilated into a Bag, whose inward surface was rough and uneven, with many papillary glandules.

Its Eggs are of the bigness of Hens Eggs, white, and powdered with a few sanguine or pale-red spots.

In

In a certain Grove, at a Village called *Sevenhuys*, not far from *Leyden* in *Holland*, they build and breed yearly in great numbers, on the top of high trees; where alſo build *Herons*, *Night-ravens*, *Shags*, *Cormorants*, &c. In this Grove every ſort of Bird (as they told us) hath its ſeveral quarter, where they build all together. When the young ones are ripe, thoſe that farm the Grove with a hook on the top of a long pole catch hold of the bough on which the Neſt is built and ſhake out the young ones, but ſometimes Neſt and all down to the ground.

§. II.

* Tlauhquechul, *or the Mexican Spoon-bill of Hernandez.*

IT is a Bird of a ſtrange Palate: It feeds only on living fiſh, and will not touch dead ones. It delights in ravin: In ſhape of body is like to the *Spoon-bill* or *Pelecan*, but almoſt all over of a moſt beautiful ſcarlet or pale red colour. Its Bill is broad, round toward the end, and of an aſh-colour: The Pupil of its Eye black, the *Iris* red, and wrinkled: Its forehead like that of a *Turkey* or *Aura*: Its Head almoſt void of hairs or feathers, of a white colour, with near the whole Neck, and part of the Breaſt: A broad black ring, diſtinguiſhing the Head from the Neck. It lives about the Sea-ſhores and Rivers.

§. III.

* *The Braſilian Spoon-bill, called* Aiaia, *and by the Portugheſe,* Colherado, *Marggrav. the ſame I ſuſpect with the precedent.*

IN figure it agrees with the *European Platea*, differing only in colour. Of the bigneſs of a *Gooſe*: Its Bill broad like a Spoon, and white: Its Neck long: Its Feet broad. It is all white, ſave that the Back and Wings are of a pale carnation colour. Its fleſh is edible. It is very common about the River of St. *Francis*, and elſewhere in Fenny places. Probably this Bird is the ſame with the precedent. We have a Bill of (I ſuppoſe) one of theſe *American Plateas*, which is almoſt twice as big and long as that of the common *European*.

BOOK III. PART I. SECTION III.

Water-fowl not Piſcivorous with very long ſlender ſtreight Bills.

CHAP. I. §. I.

The Woodcock: Scolopax *Aldrov.* tom. 3. pag. 472.

IT is ſomewhat leſſer than a *Partridge*: The upper ſide of the body particoloured of red, black and grey, very beautiful to behold. From the Bill almoſt to the middle of the Head it is of a reddiſh aſh-colour. The Breaſt and Belly are grey, with tranſverſe brown lines. Under the Tail it is ſomewhat yellowiſh. The Chin is white, with a tincture of yellow. A black line on each ſide between the Eye and Bill. The back of the Head is moſt black, with two or three croſs bars of a teſtaceous colour.

The prime feathers in each Wing are about twenty three, black, croſſed with red bars. The feathers under the Wings are curiouſly variegated with grey and brown lines. The Tail is 3 ⅛ inches long, conſiſting of twelve feathers, the tips whereof are cinereous above, and white underneath; their borders or outſides as it were indented with red; the remaining part black.

The Bill is three inches long, or more, dark brown toward the end, near the Head paler or fleſh coloured: The upper Mandible a very little longer than the nether: The Tongue nervous: The Palate rough: The Ears very great and open. The Eyes

ſtand higher or nearer to the top of the Head than in other birds, that they be not hurt when ſhe thruſts her Bill deep into the ground. The Legs, Feet, and Toes are of a pale brown or dusky colour: The Claws black: The back-toe very little, having alſo but a little Claw.

The Liver divided into two Lobes, having a Gall-bladder annexed: The Guts long, ſlender, and having many revolutions. The blind Guts very ſhort, not half ſo long as that ſingle blind gut the remnant of the Yolk-funnel.

Theſe are Birds of paſſage coming over into *England* in Autumn, and departing again in the beginning of the Spring; yet they pair before they go, flying two together, a Male and a Female. They frequent eſpecially moiſt Woods, and Rivulets near hedges. They are ſaid both to come and to fly away in a Miſt. At *Nurenberg* in *Germany* I ſaw of them to be ſold in *Auguſt*, whence I ſuppoſe they abide thereabout all the year. On the *Alps* and other high Mountains they continue all Summer. I my ſelf have fluſhed *Woodcocks* on the top of the Mountain *Jura* in *June* and *July*. Some ſtraglers by ſome accident left behind when their fellows depart remain alſo in *England* all Summer, and breed here. Mr. *Jeſſop* ſaw young Woodcocks to be ſold at *Sheffield*, and others have ſeen them elſewhere. Their Eggs are long, of a pale red colour, ſtained with deeper ſpots and clouds.

Of two that I deſcribed, one was a Male, and the other a Female; the Female was heavier than the Male by an ounce and half; the Female weighing eleven ounces and an half, the Male but ten: The Female alſo was of a darker colour.

The fleſh of this Bird for the delicacy of its taſte is in high eſteem. The Leg eſpecially is commended, in reſpect whereof the *Woodcock* is preferred before the *Partridge* it ſelf, according to that *Engliſh* Rhythm before recited in the Chapter of the *Partridge*.

If the Partridge had the Woodcocks thigh,
Twould be the beſt bird that ever did fly.

The length of this Bird, meaſured from the tip of the Bill to the end of the Tail, was thirteen inches and an half: The breadth between the tips of the Wings extended twenty ſix inches.

Among us in *England* this Bird is infamous for its ſimplicity or folly; ſo that a *Woodcock* is Proverbially uſed for a ſimple, fooliſh perſon.

§. II.

The Snipe or Snite: Gallinago minor.

THis weighs about four ounces. Its length from the tip of the Bill to the end of the Toes is thirteen inches; to the end of the Tail eleven and an half. The Wings ſpread were ſeven inches and an half wide.

A pale red line divides the Head in the middle longways, and on each ſide parallel thereto a liſt of black, and without the black over the Eyes another line of the ſame colour with that drawn along the middle of the Head. Between the Eyes and the Bill is a dusky brown line. The Chin under the Bill is white: The Neck is mingled of brown and red. The Breaſt and Belly are almoſt wholly white. The long feathers ſpringing from the ſhoulders reach almoſt to the Tail, having their outward halfs from the ſhaft of a pale red, the inner black and gliſtering, their tips red; which colours ſucceeding one another make two lines down the Back. The covert-feathers of the Back are dusky, with tranſverſe white lines: Thoſe incumbent on the Tail are red, croſſed with black lines. The greater covert-feathers of the Wings are dusky, with white tips, the leſſer are particoloured with black, red, and grey. The inſide coverts are curiouſly variegated with brown and white lines.

The Quil-feathers are in each Wing about twenty four in number; of which the outer edge of outmoſt is white almoſt to the tip: of the ſucceeding the tips are ſomething white, but more clearly from the eleventh to the twenty firſt; elſe they are all brown. But the laſt five are variegated with tranſverſe black and pale-red lines. The Tail is compoſed of twelve feathers, two inches and an half long. It ſeems to be ſhorter than it is, becauſe it is wholly covered and hid by the incumbent feathers. The tips of its outmoſt feathers are white, the reſt of the feather varied with croſs bars or lines of brown, and grey, or pale red colour. The following to the two middlemoſt

middlemoſt are of like colour with theſe outmoſt, ſave that their tips are leſs white, their bottoms more black, and the uppermoſt croſs bar reddiſh. Of the two middle feathers the tips are white, next beneath the white is a brown bar, under the brown a red one, with ſome dusky ſpots in the middle. The reſt of the feather is black, ſave that in the outer Webs are ſometimes ſeen one or two reddiſh ſpots. [I ſuppoſe the colours of the Tail vary, and are not exactly alike in all birds.]

The Bill is almoſt three inches long, black at the tip, and ſomewhat broad and chamferd: The Tongue ſharp: The *Irides* of the Eyes hazel-coloured. The Legs are of a pale green, the Talons black. The Toes long, and ſeparated from the firſt riſe, without any connection or coheſion. The back-toe is very ſmall.

The Liver is divided into two Lobes, with a large Gall appendant. The Stomach not very fleſhy. Its fleſh is tender, ſweet, and of an excellent relliſh.

It lives eſpecially on the fatty unctuous humour it ſucks out of the earth; but feeds alſo upon Worms and other Inſects.

Some of theſe Birds abide with us all the Summer and build in our Moors and Marſhes; laying four or five Eggs at a breeding time. The greateſt part leave us, and fly into other Countries. It ſeeks its food in moiſt and fenny places, and in Rivulets and Gills of water, where alſo it hides it ſelf, ſo that it is very hard to find or eſpy it.

§. III.

The Gid or Jack-Snipe or Judcock: Gallinago minima ſeu tertia Bellonii.

IT weighed two ounces: Its length from the tip of the Bill to the end of the Claws was ten inches and a quarter, to the end of the Tail eight and a half. It is about half ſo big as a *Snipe*; whence it is called by the French, * *Deux pour un*, as *Bellonius* witneſſes. The colour of the Rump is a ſhining bluiſh purple, like the feathers on a *Stares* back; the tips of the feathers being white. The ſcapular feathers covering the Back have their outward border yellow, the middle part brown, with red ſpots, their inner border of a ſhining blue, yet without any mixture of purple. The Neck is particoloured of brown, white, and pale red. The top of the Head black, with a red tincture: Above either Eye paſſes a broad line of a pale yellow. The Throat is of a pale red, painted with white and brown ſpots. The Breaſt and Belly white. Between the Eyes and Bill is drawn a black line or border. The Males in this kind differ from the Females neither in colour, nor in magnitude. The prime feathers of the Wings were in number twenty four, of which the firſt or outmoſt ten were brown or dusky: The tips of the next ten white. The three laſt or inmoſt on the outſide the ſhaft were ſtraked with red and black. The tips of the greater covert-feathers are white: The leſſer rows of Wing-feathers are black, but partly tipt with red.

* *i.e.* Two for one.

The Bill is almoſt two inches long: The upper Chap a little longer than the nether, toward the end broad and rough with * points, [chamfered] yet the very utmoſt tip ſmooth. The Legs bare ſomewhat higher than the Knees, pale-coloured, with a daſh of green. The Toes divided to the bottom: The back-toe ſmall: The Claws black. It hath a Gall-bladder, a muſculous Stomach: The ſingle blind Gut or *Appendix* being the remainder of the Umbilical funnel conveying the Yolk into the guts, ſhrunk up. It feeds upon Beetles, and other Inſects.

* As if it were carved or graven.

It hides it ſelf among Ruſhes, not riſing ſometimes till you are juſt ready to ſet your foot upon it: It is a ſimpler bird than the *Snipe*, and leſs frequent with us. I ſometimes following the vulgar error, thought it not to differ from the *Snipe* in kind, but only in Sex, taking it to be the *Cock-Snipe*. But afterward being adviſed by Mr. *M. Liſter*, I found it to differ ſpecifically: For diſſecting ſeveral of theſe ſmall ones ſome proved to be Males, ſome Females.

§. IV.

* *The Braſilian* Guarauna *of Marggrave.* Ruſticula aquatica Braſilienſis.

IT is of the bigneſs of the *Jacu*; hath a ſtreight Bill, a little inclining downward, yellow, but dusky at the tip, four inches and an half long. Its body is alſo of the ſame length. The upper Legs are feathered down half way, ſix inches long. Each Foot hath four Toes ſo diſpoſed as is uſual, the middle of which is three inches long, the reſt ſhorter. The whole bird is covered with brown feathers, mingled with much ſhade. The Head and all the Neck are indeed of the ſame colour, but beſides, ſpeckled with white, as in the *Jacu*. It is pretty good meat.

Chap. II. §. I.

The Godwit, called in ſome places the Yarwhelp, or Yarwip, in others, the Stone-Plover: The Barge *or* Ægocephalus *of Bellonius, as I take it.* An Fedoa Geſneri? An* Ruſticula Aldrov?

* Tom. 3. pag. 439.

IT is like and equal to a *Woodcock*, or a little bigger: From point of Bill to the Claws ſeventeen inches and an half long: Between the tips of the Wings ſpread twenty eight and an half broad. The feathers of the Head are grey or cinereous, with ſome tincture of red, their middle parts being black; above the Eyes white. The Neck and Throat are reddiſh. The Breaſt of a ſordid white. The Back is particoloured of red, black, and white; the middle parts of the feathers being black, the edges of a pale red. In the Cock the Throat and Breaſt are croſſed with black lines: In the Hen the Throat and Neck are grey [or aſh-coloured,] The whole rump almoſt is white, powdered with blackiſh ſpecks. [In the Bird that I deſcribed a triangular ſpot of white, took up the Rump or lower part of the Back, the *vertex* reſpecting the birds Head.] The great feathers of the Wings are black, with white ſhafts: The reſt of the firſt row, as alſo thoſe of the ſecond row have reddiſh aſh-coloured tips and edges. The leſſer covert-feathers of the Wings are of like colour with the body. The Tail-feathers are in number twelve, all croſſed alternately with black and white lines; the middlemoſt, which are the longeſt, of 3 $\frac{1}{8}$ inches length: The reſt on each ſide in order ſomewhat ſhorter, the exteriour than the interiour.

The Bill is white at the Baſe, black toward the point, longer for the bigneſs of the bird even than the *Snipes* or *Woodcocks*; the upper Mandible a little longer than the lower: The Tongue ſharp: The Noſthrils oblong: The Ears great.

The Legs are not very long; naked to the middle of the ſecond joynt: The Claws black. The Claw of the middle fore-toe on the inſide is thinned into an edge. The outer Toe is joyned to the middle one from the riſe to the firſt joynt by a pretty thick membrane of a dusky or dark green colour.

It lives and ſeeks it food on the ſandy ſhores by the Sea-ſide, which for a great ſpace are uncovered when the Tide is out, where it hides not it ſelf like the *Woodcock*, but walks up and down the Sands in open view, like a *Gull*.

Barge *of Bellonius, which he ſaith they in French call,* * Petit Corlieu.

* A ſmall *Curlew.*

It lives in Meadows like the *Curlew*, and in like manner frequents the Sea. It is a timorous bird, not abiding the approach of a man. It hath a cry like a *Goat*; whence we gueſs it was named by *Ariſtotle*, *Ægocephalus*, or *Goathead*. But leſt perchance this my conjecture may ſeem raſh and groundleſs, I will deſcribe it. It is leſſer than the *Curlew*, but for colour not much unlike it, hath alſo a ſhorter Bill, and ſtreight. *Ariſtotle* writes thus of it. *It altogether wants a Spleen*, and a little after, For in ſome birds the Gall ſticks to the Stomach, in ſome to the Guts, as in the *Dove*, *Raven*, *Quail*, *Swallow*, *Sparrow*; in ſome *to the Liver and the Stomach, as in the* Ægocephalus, *and laſtly, in others to the Liver and the gut, as in the Hawk and Kite.* But in our *Barge* diſſected we found the Gall ſticking both to the Liver and Stomach, as any one that will

will be content to take the pains to cut it up, may obſerve. It is eſteemed a delicate bird by the *French*, but ſeldom appears in places far remote from the Sea, ſeeking its food moſt willingly in ſalt Marſhes. A good part of Marſh-birds are nocturnal, as this alſo is, intent upon feeding by night rather than by day. Wherefore we ſhall receive it for the *Ægocephalus*, till ſome other more fit name be found out for it. Thus far *Bellonius*.

I take this bird of *Bellonius* to be the ſame with our *Godwit*, which in *Cambridge-ſhire* and the Iſle of *Ely* they call *Yarwhelp*.

§. II.

The ſecond ſort of Godwit, which ſeems to be the ſame with the Totanus *of* * *Aldrovand, called at Venice,* Vetola.

* Tom. 3. pag. 430.

IT weighs above nine ounces: Its length from Bill to Tail is full ſeventeen inches; to the feet twenty one: Its breadth from Wings-end to Wings-end twenty eight.

Its Bill is like a *Woodcocks*, three inches three quarters long, black at the end, elſe reddiſh: Its Legs long, and bare above the Knees: The outmoſt Toe joyned to the middle by a membrane as far as the firſt joynt: The middle Claw excavated on the inner ſide.

The Chin is white, with a tincture of red: The Neck * cinereous: The Breaſt and Belly white: The Head of a dusky aſh-colour, whitiſh about the Eyes: The Back brown: The Rump encompaſſed with a white ring, as in the *Pygargus*.

* Aſh-coloured, or grey.

The quil-feathers in each Wing were twenty ſix: The firſt or outmoſt the longeſt, all black, as were alſo the ſix next. The reſt to the nineteenth were half white: In the twentieth and twenty firſt the outer edges were alſo white. The tips of the feathers of the ſecond row were white, and together made a white line croſſing the middle of the Wing. Its Tail was three inches long, made up of twelve feathers. The two middlemoſt of which were almoſt wholly black: The outmoſt, eſpecially on the outſide Web, white almoſt up to the tips: In the reſt in order the white part was leſs and leſs to the middlemoſt.

This bird hath thick blind-guts, $\frac{1}{6}$ of an inch long, and beſides that ſingle one about the middle of the guts. It differs from the precedent, 1. In the colour of the Tail: 2. In the colour of the Back and upper ſide, which in that is various, in this one and the ſame: 3. In bigneſs, being leſs than that.

§. III.

The third ſort of Godwit.

BEſides the two already deſcribed Mr. *Willughby* acknowledges a third ſort of *Godwit*, which in *Cornwall* they call the * *Stone-Curlew*, differing from the precedent in that it hath a much ſhorter and ſlenderer Bill than either of them.

* Others call the *Oedicnemus* of *Bellonius* the *Stone Curlew*.

Book III. Part I. Section IV.

Water-fowl not piſcivorous with very long, ſlender, crooked Bills.

Chap. I. § I.

The Curlew: Numenius ſive Arquata.

THe Female weighed twenty eight ounces; the Male, which is ſomewhat leſs, and commonly called, *The Jack Curlew*, twenty five and a quarter. The length of the Female from the tip of the Bill to the end of the Claws was twenty nine inches: To the end of the Tail twenty three and an half. The diſtance of the tips of the Wings ſpread forty inches.

The middle parts of the feathers of the Head, Neck, and Back are black, the borders or outſides aſh-coloured, with a mixture of red. In the Throat and Breaſt the middle parts or ſhafts of the feathers are black, the borders or edges, in the Breaſt white, in the Throat white, with a tincture of red. The Chin is not ſpotted. The Rump and Belly are white.

The feathers inveſting the underſide of the Wing are all white: the firſt or outmoſt quil-feathers all over black, the reſt ſpotted with white. The firſt feather of the ſecond row is all black: the tips of the eighth or ninth next are white. This Bird hath a ſmall, ſharp-pointed, black feather at the end of the Wing, which whether or no it is to be reckoned among the quil-feathers one may juſtly doubt.

Its Bill is * very long, narrow, bowed, of a dark brown or black colour: Its Tongue ſharp, and very ſhort, extending not further than the angle of the lower Chap: The Noſthrils long: The Legs long, of a dusky blue colour, bare of feathers half up the ſecond joynt: The Claws ſmall and black: That of the middle Toe thinned into an edge on the inſide: All the Toes connected by a thick membrane from the divarication to the firſt joynt. It hath a great Gall-bladder, with a long neck extending to the gut, which concurs not in one common paſſage with the * Gall-pore, but enters the gut at a diſtinct hole, though near to that.

* In ſome five inches and an half, in ſome above ſix.

* *Porus biliarius.*

It hath a muſculous Stomach or Gizzard like granivorous birds: In the Stomach of one we found *Periwinkle* ſhells, ſmall ſtones, and grit, *&c.* in anothers Frogs, *&c.* The ſingle blind gut is very long: The common blind gut three or four inches long, and full of excrements. Above the Stomach the Gullet is dilated into a bag, granulated within with thick-ſet papillary glandules.

This bird for the goodneſs and delicate taſte of its fleſh may juſtly challenge the principal place among Water-fowl: Of this our Fowlers are not ignorant, and therefore ſell them dear. They have a Proverb among them in *Suffolk*:

A Curlew, be ſhe white, be ſhe black,
She carries twelve pence on her back.

It is a Sea-fowl, ſeeking its food on the Sands and Ouze, and in ſalt Marſhes: It is found on the Sea-coaſts on all ſides of *England*.

§. II.

The Whimbrel: Arquata minor, *at Venice* Taraniolo.

THis bird, the bigneſs excepted, is very like the *Curlew*. It weighs twelve ounces. The meaſure from Bill to Tail was ſeventeen inches, to the end of the Feet twenty: Of the Wings ſpread thirty three and an half. The Bill three inches long: The blind guts two: The guts twenty nine. Its Legs were greeniſh: The quil-feathers marked with great, ſemicircular, white ſpots. The leſſer rows of covert-feathers had their edges white, their middle parts of a reddiſh black. The Belly and Thighs were white.

Mr. *Johnſon* of *Brignal*, in his Papers communicated to us, deſcribes this Bird by the name of a *Whimbrel* thus. It is leſs by half than the *Curlew*, hath a crooked Bill, but ſhorter by an inch and more: The Crown deep brown without ſpeckles: The Back under the Wings white, which the *Curlew* hath not. Beſides, the colour of the whole body is more duskiſh or dull. It is found upon the Sands in the *Teez* mouth.

The

The Gallinula Phæopus *of Geſner, which I ſuſpect to be the ſame with the precedent.*

This Bird about *Strasburgh* is called *Brachvogel*: It hath a black body, ſprinkled with a few red and yellowiſh ſpots; a ſlender, long, black Bill, moderately bending; a whitiſh Neck, its underſide about the middle and below tending to yellow or * red: A white Belly; dusky or aſh-coloured Legs, as the Picture repreſents. This deſcription was taken from a Picture, and therefore the leſs to be credited.

* The word is *ruſſus*, it may be rendred ruſſet.

The other Phæopus *or leſſer Curlew of Geſner; the ſame with our Whimbrel.*

This Bird ſome call (as they do the greater *Curlew*) *Regenvogel*, that is, *Rain-fowl*; and in *Italy*, *Tarangolo*. It is almoſt like the laſt deſcribed, hath aſh-coloured Legs like that, and a white Belly and Chin: A like Bill alſo, ſave that it ſeems a little longer. The Wings are ſpotted with white, elſe of a dusky red; but their long feathers and the upper ſide of the Back are blackiſh. The Throat and Breaſt have ſomething of an obſcure and very faint red, and are ſpeckled with many black ſpots.

I ſee no reaſon to doubt but this is our *Whimbrel*, ſith the * names agree, and the deſcriptions differ not in any conſiderable note.

* *Taraniolo* and *Tarangolo* in Italian.

Chap. II.

* *The* Falcinellus *of Geſner and Aldrovand, which we may Engliſh, The Sithe-Bill.*

WE have thought fit (ſaith *Aldrovand*) to place this next after the *Herons*, becauſe that both in magnitude and the whole ſhape of its body it reſembles a *Heron*, the Bill only excepted.—This *Geſner* ſometime ſaw alive at *Ferraria* in *Italy*. Its body was bigger that a *Pigeons*, of an elegant colour, almoſt green, with ſomething of purple here and there mixt, as in the Back of the *Lapwing*, the colour varying, as it is variouſly expoſed to the light: The Head and Neck brown: But the upper part whitiſh, ſpotted with black. Its Bill was ſlender, long, aud bending downwards like that of the *Curlew* or *Corvus Sylvaticus*: Its Legs long, and Feet cloven. Some call it, * The *black Heron*. But this that I ſaw was not grown up: They ſay it comes to be bigger, and perchance alſo may change ſomething in colour by age. Among all the Birds that I have hapned to ſee, none ſeems to me to come nearer the *Ibis*. Thus far *Geſner*. Now (proceeds *Aldrovandus*) whether this be that Bird which our Country-men call *Falcinellus*, I do not well know. For it differs not a little from *Geſners* deſcription. But it may happen (as he well notes) that this kind of bird may vary, according to the difference of age, both in bigneſs and alſo in colour. Our *Falcinellus* comes well up to the bigneſs of the *Herons*, and reſembles them in the whole faſhion and ſhape of the body, excepting the Bill. Its Head, Neck, Back, Breaſt, Belly, Thighs, Rump are of a ſpadiceous colour, tending to dusky: But the Neck and Breaſt are ſprinkled with certain oblong dusky ſpots. In the middle of the Back is a kind of ſpot, of a dark green colour: Which ſame colour is alſo ſeen in the Wings and Tail. The Bill is blackiſh, very long, and falcate. The Thighs as far as they are naked, the Legs and Feet are of the ſame colour with the Bill. The Legs and Toes are extended to a conſpicuous length.

* *Airon negro* in Italian.

Chap. III.

* Curicaca *of the Braſilians, called by the Portugheſe* Maſarino.

IT is a Bird, in the judgment of *Cluſius* like to the *Curlew*: Of the bigneſs of a handſom *Gooſe*: But its Head about as big as a *Ducks*. Its Neck ſix inches long, three thick, or a little more: Its Bill ſix inches long, crooked like an *Hungarian* Sword, of a dusky fire colour. The length of its body from Neck to Vent eleven inches, the thickneſs one foot. The length of the Wings ſixteen inches, of the Tail (which ends with the Wings) nine: Its Legs are eight inches long: Its Feet two

two and an half; red like a *Ducks*, but not flat, having four Toes with black Claws, three ſtanding forward, and one backward. Its Head and Neck have a white Plumage, mingled with yellow, in the upper ſide pretty long. Its Eyes are black, with a yellow circle. About the Eyes and the beginning of the Throat there is a black skin. The whole body is covered with black feathers, excepting the Back, Head, and Belly, where are ſome of a dark aſh-colour, and in the middle of the Wings others white, mixt with grey, as in *Storks*. The reſt of the feathers of the body, of the beginning and end of the Wings and of the whole Tail are black. The upper Legs to the middle are void of feathers; for it is a Water-fowl. Its fleſh is good, which I have often eaten roaſted and fried with butter.

There is found alſo another ſort like to this, but much leſs, about the bigneſs of a *Hen*, which is called *Matuitui*.

It is common about the River of S. *Francis*, in *Itapuama*, and elſewhere.

Chap. IV.

* *The* Acacalotl *or Water-Raven* [Corvus aquaticus] *of Hernandez.*

THe Cock from the end of the Tail to the point of the Bill was almoſt four ſpans long; and of a moderate bigneſs. The Legs a ſpan and half: The Bill bending like a Bow, two Palms long, and pretty ſlender: The Feet cloven into four Toes, armed with very black Claws. The Legs are not ſo black as the Claws: The Bill is blue, and the Head ſmall. The lower feathers are dusky, with red intermingled: But the upper promiſcuouſly purple, black, green, and ſhining. The Neck is ſeven inches long. The Head and Neck are covered with dusky, white and green feathers, and ſome a little yellowiſh. The Eyes are black, but the *Iris* of a ſanguine colour. From the outer angles of the Eyes as far as the Bill for the ſpace of one inch the skin is bare of feathers and ſmooth, of a reddiſh colour. The Wings underneath are of a ſhining changeable colour, which varies according as it variouſly reflects the Sun-beams; but above near their ſetting on firſt *Paſſe.* then of a lovely green and *Peacock* colour. It is native of the Coaſt of *Mexico*: It lives about Lakes, and feeds upon Fiſhes. It breeds and brings up its Young in the Spring time in fenny places. It yields a good nouriſhment, and not very unpleaſant, but groſs, and (as other Marſh birds) of a fiſhy ſent. This Bird doth not much differ from the *Falcinellus* of *Geſner* and *Aldrovand.*

Chap. V.

* *The Braſilian* Guara *of Marggrave: The Indian Curlew of Cluſius,* Exot.

IT is a Land and Water-fowl, of the bigneſs of the *Spoon-bill*; It hath a Bill of the figure of a *Polonian* Sword, long, of a whitiſh aſh-colour; black Eyes; a Neck and Head like the *Spoon-bill*. The Wings end with the Tail, which is ſhort, and carried low. The Legs are long, the upper half whereof covered with feathers, the reſt bare. In each foot four Toes, ſituate as is uſual, long, with ſhort Claws, at bottom joyned together by a skin. The Feet and Legs as far as naked are of a light grey, as is alſo the Bill. The whole Bird is covered with feathers of an elegant ſcarlet colour: Only the quil-feathers of the Wings have their ends black. This Bird, when firſt hatch'd, is of a blackiſh colour; next it becomes aſh-coloured; then white: After by degrees it begins to grow red, and in the ſecond year of its age is all over of that colour they call *Columbin*; and as it grows older it acquires that elegant ſcarlet colour. It feeds upon fiſh and fleſh, water always added.

That Bird which *Cluſius* from a Picture ſent him by the Duke of *Areſchot*, deſcribed by the title of the * *Indian Curlew*, is without all doubt the ſame with this. It approached well to the bigneſs of a *Curlew*: Had a long Neck, a long and ſharp Bill, but crooked like a Sithe: Long and ſlender Legs, furniſhed with four Toes, of which the three foremoſt are longeſt, the hind-toe ſhort: All armed with black Claws. The Thighs for half that part that is above the knee are deſtitute of feathers: Which

* *Numenius Indicus.*

note

note is common to it with all other birds which are wont to frequent watery and fenny places. Its Tail was short, not exceeding the ends of the Wings. But the feathers investing the whole body were of another colour than those of our common *Curlew*, for they were wholly red like Vermilion, excepting the ends of the quil-feathers of the Wings, which were black. Its Bill and Legs were yellow, almost like Oker.

SECTION V.

Water-fowl not piscivorous, with slender Bills, of a middle length.

Chap. I.

* *The* Himantopus *of Pliny, Aldrov.* lib. 20. cap. 30.

THe whole Belly, Breast, and under-side of the Neck is white, as is also the Head beneath the Eyes: For above the Eyes it is black, and so is it too on the Back and Wings. The Bill is likewise black, a Palm and more long, slender, and fit to strike Wood-lice, and other Insects. The Tail from white inclines to ash-colour, but underneath is white. On the upper side of the Neck are black spots tending downward. The Wings are very long. The Legs and Thighs are of a wonderful length, very small and weak, and so much the more unfit to stand upon, because it wants a hind-toe, and the fore-toes for the length of the Legs are short; so that well and of right may it be called *Himantopus*, or *Loripes*, its Legs being soft and flexible like a thong or string. The Toes are of almost equal length, and of a sanguine colour, yet is the middle toe a little the longest. The Claws are black, small, and a little crooked.

See *Gesners* description of this bird, and what else he hath concerning it in the Author himself, or in *Aldrovandus*, who repeats it out of him, *Ornithol.* lib. 20. cap. 30. To say the truth, it hath not been our hap as yet to see this bird.

Chap. II.

* *The* Crex *of Bellonius.*

IT hath long Legs like the *Limosa*, called by the *French*, *Chevalier*, but is bigger; yet lesser than the *Curlew*. It hath a long, black Bill like the *Curlew*; and also black legs and Head, the Neck, back, and Breast white. The rest of the upper parts of the body incline to ash-colour. The Wings are blackish, crossed on both sides by a white line near the * ridge. It seeks its food on the ground, and in the air also pursues and preys upon flies, in like manner as the *Lapwing*. When it flies it makes a great noise.

* The Latine word is *Costa*.

This Bird *Bellonius* saw about the River *Nile*; and thence guessed it to be the *Crex* of *Aristotle*, because in its cry it often repeats this word *Crex, Crex*.

Chap. III.

The Sea-Pie: Hæmatopus Bellonii.

IT is of the bigness of a *Magpie* or *Crow*: of the weight of eighteen ounces: From Bill to Tail, or Claws (for it is all one) eighteen inches long.

Its Bill is streight, three inches long, narrow, or compressed sideways, ending sharp, of a red colour, [In another bird, perchance a young one, the Bill was

half black from the tip.] By its figure the Bill seems to be framed by Nature, to thrust under * *Limpets*, and to raise them from the Rocks, that so it may feed upon their meat. The upper Chap is a little longer than the nether. The *Irides* of the Eyes, and edges of the Eye-lids of a curious red colour, [in another bird they were from yellow hazel-coloured.] The Legs and Feet red. It wants the back-toe. The outmost and middle toe are for a good way up joyned together by a membrane: So that this Bird seems to be of a middle nature between whole and cloven footed. [In some we observed the feet to be of a pale dusky colour, perhaps those also were young ones.] The Claws were black.

* *Patellæ.*

The Head, Neck, Back, and Throat to the middle of the Breast were black. The rest of the Breast and Belly white, as also the Rump. From this likeness in colour it took the name of *Sea-pie*. In one bird there was a great white spot under the Chin, and another lesser under each eye.

The Tail is made up of twelve equal feathers, of four inches long, the lower half white, the upper black. The prime feathers of each Wing are about twenty eight, of which the first is black, having only the interiour edge white: In the rest in order the white part is enlarged, till in the twentieth and three following it takes up the whole feather. The succeeding from the tweenty third grow gradually black again. The covert-feathers of the middle quils are white, and together make up a transverse bed of white in the Wing.

The Stomach is great, not musculous, but membranous, in which dissected we found *Limpets* entire, upon which it seems chiefly to feed and live; as from the make of its Bill we gathered before. It hath a great Liver, divided into two Lobes, with a Gall annexed: A small Spleen: Huge Ureters. The Cock differs not from the Hen in colour. Its flesh is very black, hard, having a rank taste, in a word very bad meat; which we cannot but wonder at, seeing it feeds chiefly upon Shel-fish; as do also the best rellish'd and most savoury of Water-fowl. On the Coast of *Wales* and elsewhere on the Western Shores of *England* we saw abundance of these birds.

Care is to be taken that the *Hæmatopus* be not confounded with the *Himantopus* or *Loripes*, so called from the weakness and flexibility of its long legs, as we said before.

Chap. IV. §. I.

The greater Plover of * *Aldrovand: The Venetian* Limosa *of Gesner: As also the* Glottis *of the same Gesner and Baltner: Called at Venice* Totano, *a name it should seem common to this and the following bird.*

* *Ornithol. lib.20.cap.66.*

It weighs near seven ounces: In length from the tip of the Bill to the end of the Claws it exceeds seventeen inches; to the end of the Tail fourteen; in breadth from tip to tip of the Wings expanded it is about twenty four and an half. Its Bill is black, yet at the angle of the lower Mandible red, slender, streight, two inches and an half long. Its colour on the upper side of the Head, Neck, Wings, Shoulders, and forepart of the Back is mixt of brown and whitish, we commonly call it grey. On the Head the outer borders of the feathers are white, the middle parts black. A white line passes above the Eyes. The under side of the body is all white and also the lower part of the Back or Rump.

The quil-feathers of the Wings are in number about twenty six, all dusky or dark brown. The five outmost darker than the rest, their interiour Webs being powdered with white specks: The inner quils are paler, speckled with white. The Tail is three inches long, composed of twelve feathers, waved with cross lines or bars of brown and white alternately placed.

Its Legs are very long, bare of feathers for two inches above the first joynt [or Knees] of a middle colour between green and livid, or * plumbeous: The back-toe small: The Claws black. The outmost Toe joyned to the middle at bottom. Its Stomach small, less fleshy than in granivorous birds.

* Lead colour

This bird seemed to me in bigness to exceed the *Redshank*: Its Legs are also longer. *Gesners* description of the *Limosa*, which you have in *Aldrovands* Ornithology, *lib.*20. *cap.*28. answers in all points exactly to this bird. The description also of the

Glottis

Glottis in *Gesner* and its figure in *Baltner* agree to it. I believe also that this is the bird which the *French* call *Chevalier aux pieds verds*, or the green-leg'd Horseman, from the length and colour of its Legs. At *Venice* in *Italy* we saw many of them.

§. II.

The other Totano, *perchance Gesners* Totanus, *Aldrov.* lib. 20. cap. 24. An Callidrys rubra *Bellonii?*

WE saw and described at *Venice* another bird, we think different from the precedent: though the main difference were in the colour of its Legs, which were of a pale yellowish-red. Its Bill also seemed to be something shorter.

We take this to be the bird the *French* call *Chevalier aux pieds rouges*, the *red-leg'd Horseman*; the precedent (as we said before) that they denominate, *Chevalier aux pieds verds*. And perchance they may differ only in Sex; for this was a Male, that a Female. For in other birds also of this kind, as for example, the *Erythra* of *Gesner*, which he puts among the *Water-hens*, the Female differs from the Male both in bigness, and in the colour of the Legs. The red *Callidrys* of *Bellonius* is either the same with this or very like it: It differs in that the Neck and feathers under the Wings and Rump are ash-coloured, and that on the Temples on each side it hath two black spots, which give as it were a shadow to the Eye-brows, which themselves also are marked with a white spot. His figure of the red *Callidrys* doth not answer to the description, for the Bill and Legs are drawn too short.

Chap. V. §. I.

The Redshank or Pool-Snipe: Gallinula Erythropus major Gesneri * Aldrov. Totanus *of the same Gesner, as it seems to us*, Aldrov. *tom.* 3. *pag.* 439. An Bellonii Pardali congener longiore rostro? * *Ornithol.* Book 20. Chap. 26.

IT is of a middle size for bigness between a *Lapwing* and a *Snipe*, approaching to the quantity of a *Plover*. The Head and Back are of a dusky ash-colour, spotted with black [In some I observed the Back to be of a dusky or brown colour, inclining to green.] The middle of the Neck is more cinereous. The Throat particoloured of black and white, the black being drawn down longways the feathers. The white colour seems to have something of red mingled with it. The Breast is whiter with fewer spots, and those transverse.

The Tail, and feathers next to it are variegated with transverse waved lines of white and black alternately. The number of Tail-feathers is twelve; the length of the Tail two inches three quarters. The quil-feathers in each Wing are twenty six, of which the first is brown, only its shaft white: The five next of a black brown; on the inner side white, and as it were sprinkled or powdered with white. The tip of the seventh is white, with one or two transverse black lines. In the following feathers the white spreads it self further, till in the nineteenth it takes up the whole feather: The * foremost covert-feathers are black; the middle varied with white lines. The other rows of covert-feathers are of the same colour with the Back, that is of a dark ash-colour. * Understand it of the first row of coverts

The Bill is two inches long, slender, and like a *Woodcocks*, of a dark red at base, black toward the point. The Tongue is sharp, slender, and undivided; the upper Mandible longer, and something crooked at the very tip: The Eyes hazel-coloured: The Nosthrils oblong. The Legs of a fair, but pale red: The Claws small and black. The back-toe is very small, having a very little Claw. Of the fore-toes the inmost is the least: All are connected by a membrane below; but the outmost with a larger, extending to the second joynt.

It is common on the sandy shores about *England* every where.

It breeds in Marshes, and if any one comes near its Nest it flies about, making a great noise like the *Lapwing*.

It differs from the *Totanus* of *Aldrovandus*, 1. In that it is much less. 2. That it hath shorter Bill and Feet. 3. In the dusky colour of its Back. 4. In the red colour of its Legs and Feet.

* *Gallinula erythropus major.*

The figure of the * greater *red-leg'd Water-hen* in *Geſner* and *Aldrovand* doth not agree well to this bird: For the Bill is drawn too ſhort and thick at the Head. *Geſners* deſcription of his *Totanus* doth ſo well agree to it in almoſt all particulars that I doubt not but it is the ſame bird. Only in the length of the Bill and Legs, and in the bigneſs of the body is ſome diverſity.

§. II.

* Lib. 20. c. 26.

The Gambetta *of* * *Aldrovand.*

THe *Gambetta* of *Aldrovand* is alſo near of kin to the *Redſhank*, which he thus deſcribes. Its Head, Neck, and Breaſt are cinereous, all over ſprinkled with many * brown ſpots, greater on the Back, leſſer on the Neck and Breaſt, leaſt of all on the Head. The maſter-feathers of the Wings are black: The body cinereous, on the Wings and Back inclining a little to red: The Belly white: The Bill black. The *Irides* of the Eyes of a yellowiſh green, encompaſſed with a black circle. The legs and feet from yellow incline to red.

* *Fuſcis*, i. e. dark or dusky.

This Bird we ſaw at *Milan* in *Italy*, and thus deſcribed. It is ſomething leſs than a *Lapwing*. The upper ſurface of its body is grey, of ſuch a kind of colour as is ſeen in the Backs of Hen *Ducks* and *Teal*, or of the *Curlew*. Its Legs and Feet are long and yellow, its Claws black. It hath the back toe. Its Bill is ſhorter than the *Redſhanks*, longer than the *Lapwings*; near the Head of a fleſh-colour, near the tip black. The prime feathers are twenty five in each Wing. The Tail half a hand-breadth long, not reaching ſo far as the ends of the Wings cloſed. It hath the Head and Neck of a *Tringa*.

Chap. VI.

Of the Birds called Tringæ.

§. I.

* Tom. 3. pag. 481.
* *Aldrov. Ornithol.* tom. 3. p. 461.

The Tringa *of* * *Aldrovand: The* Cinclus *of Bellonius: The* Gallinula rhodopus *or* phœnicopus, *and alſo the* Ochropus media *of* * *Geſner.* *The* Steingallel *of Leonard Baltner.*

* Or brown, with a tincture of green.

IN bigneſs it equals or exceeds a *Blackbird*. The colour of the upper ſide is of a * dusky green, and ſhining like ſilk. The feathers growing on and between the Shoulders, as alſo the quil-feathers next the body, and moſt of the covert-feathers of the Wings are ſpotted on the edges with many white ſpecks. Thoſe on the top of the Head and upper ſide of the Neck want theſe ſpots. [*N. B.* That this Bird was a Female, for in the Males there are many and thick ſet ſpots on the Head, ſo that they make up certain lines or ſtrakes.] The Circumference of the Eyes and the Chin are white. The Throat is white, and ſpotted with brown. The feathers on the middle of the Back are blackiſh, with white edges: Thoſe next the Tail milk-white. The colour alſo of the Breaſt and whole Belly is purely white.

The quil-feathers, twenty four in each Wing, are all dusky, ſave only the forementioned, three in number. The Tail is more than two inches long, conſiſting of twelve feathers of feathers of almoſt equal length. The outmoſt of theſe are wholly white; the next near their tips marked with a white ſpot. The third in order from the outmoſt have one broad tranſverſe white line not far from the point; the fourth two; the fifth two and an half; the middlemoſt three or four. The covert-feathers of the underſide of the Wing are brown, with white edges. The interiour baſtard wing makes a lovely ſhew. For its feathers being of a dark brown, or black colour, are curiouſly varied with many white lines, drawn not directly croſs each feather, but obliquely, yet parallel one to another in each Web of the feather, and by pairs concurring at the ſhaft in an obtuſe angle all along the length of the feather.

The Bill is an inch and half long, ſtreight, ſlender, compreſſed at the ſides, of a dark green, black at the point: The upper Mandible a little longer than the nether: The Tongue ſharp, not cloven. The Eyes of a greater ſize, with hazel-coloured *Irides*. The Legs are long, lead-coloured, with a tincture of green: The Toes alſo long;

long; the two outmost connected by a membrane almost to the first joynt: The back-toe little: The Claws black.

This is a solitary bird; yet in breeding time they fly two together, Male and Female, about the banks of Pools, Lakes, and Rivers.

The *Gallinula rhodopus* or *phœnicopus* of *Gesner*, which he saith the *Germans* call *Steingallel*, differs from the *Steingallel* of *Baltner* in the colour of the Legs, which in *Gesners* Bird was like that of a Rose or Amethyst, in *Baltners* a dirty green. But seeing the other notes agree, I judge it to be the same Bird, different perchance in Sex: since (as *Baltner* hath observed) in some of these Birds the Sexes differ in the colour of their feet.

§. II.

* *The third* Tringa *of Aldrovand, called by the Italians*, Giaroncello & Pinirolo.

THe Bill of this is much blacker than that of the precedent, and a little shorter; the upper Chap somewhat longer than the nether. It is the same for shape of body, only somewhat different in colours: For whereas both are chiefly of a dusky and chesnut-colour in the Head, Neck, Back, and Wings, that in all these parts hath more of dusky, this more of the other colour. The Tail in like manner, though it be something shorter, is white underneath, above approaches to the same chesnut colour. In the Breast, Belly, Thighs, Legs and Feet it differs little or nothing.

§. III.

The lesser Tringa *or Sandpiper:* An Cinclus secundus seu minor * *Aldrov?* Gallinula hypoleucos *Gesneri*, *Aldrov.*tom.3. pag.469. Ein Pfisterlein *Leon.Baltner*. * *Ornithol.* tom.1.p.492.

IT weighs near two ounces; and is from Bill to Feet eight inches three quarters in length.

The middle of the Neck is ash-coloured, else the whole upper surface of the body is of a dusky sordid green, elegantly variegated with darker transverse lines; only there is something of red mingled with the feathers on the middle of the Back, and those that spring out of the Shoulders. The Head is paler, not varied with cross lines, but black strokes drawn downward along the shafts of the feathers. The Sides, Breast, and Belly are white. Above the Eyes is a white line. The Throat is of a sordid white, the shafts of the feathers being darker. The three or four quil-feathers next to the body are of the same colour with the body: The outmost is dusky, [or dark brown] the inner edge of the second, about the middle of the feathers length, hath a spot of white: Of the rest to the tenth the inner Webs in order have larger white spots. After the tenth the white spreadeth beyond the shaft into the other Web of the feather. The tips also of the feathers, from the fourteenth to the twentieth, are white. The primary covert-feathers of the Wings, or those of the first row, as well the upper, as the nether, have white tips: Of the upper, those especially from the tenth to the twentieth: Of the nether, those next the body, which indeed are wholly white, and not varied with lines. The ridge or base of the Wing is white. The feathers of the third row are white almost to the bottom. But between the third row and the *basis* of the Wing is a broad line of brown. The middle feathers of the Tail are of the same colour with the body: The third on each side from the two middlemost have their tips white: The fourth are more white: Of the fifth all the exteriour Web is white, and a little also of the interiour: In the outmost the white spreads further into the interiour Web.

The top of the Bill is of a dusky blackish colour, the bottom whitish: The tip a little bent downward: The Eyes hazel-coloured: The Ears great. The Feet of a pale green: The Claws black. The outmost fore-toe joyned at bottom to the middle one by a membrane; the back-toe small: The Stomach less musculous than in granivorous birds, in which dissected we found water-insects.

These are also solitary birds, living singly, except in breeding time, when they fly together by pairs, the Male and his Female. I suppose this Bird is the same with that *Gesner* describes under the title of *Pilvenckegen*, especially for that he saith it makes a noise by night, like one crying or lamenting, which thing (as we have been informed) is true of our bird. Only it seems to be something lesser, and of a darker colour above. See *Aldrovand.* tom.3. p.485.

They

They frequent Rivers and Pools of water. I have ſeen of them about the River *Tame* in *Warwickſhire*, the Lake of *Geneva*, &c.

Chap. VII.

The Knot: Canuti regis avis. An Bellonii Callidrys nigra?

It weighed four ounces and an half; from the tip of the Bill to the end of the Feet was ten inches long; between the ends of the Wings ſtretcht out twenty inches broad.

As for the colour, the Head and Back were of a dusky aſh-colour, or dark grey: The Rump varied with white and black lines: The Breaſt and Belly white: The ſides under the Wings ſpotted with brown. [In ſome Birds we obſerved a white line between the Eyes and the Bill.]

The greater quil-feathers of the Wings were black, with white ſhafts: The outer edges of the next after the fifth white: Of the ſecond row of Wing-feathers, the foremoſt were black, with white tips: From the fourth the white increaſed, or ſpread it ſelf further down the feather. The leſſer covert-feathers of the Wings were of the ſame colour with the back, only fringed as it were with white. The Tail was two inches and a quarter long, made up of twelve feathers, the outmoſt whereof on each ſide was white.

The Bill was near an inch and half long, black, as in the *Woodcock*; bigger and ſtronger than in the *Snipe-kind:* The Tongue extended to the very end of the Bill. [Some Birds have a knob or eminency under the Bill like *Gulls*.] The Eyes great, and hazel-coloured. The feet greeniſh: The back-toe ſmall: The fore-toes divided from the very beginning of the divarication, no membrane intervening. The Liver divided into two Lobes, with a Gall appendant.

About the beginning of Winter they are ſaid to come into *Lincolnſhire*, where they continue two or three months about the Sea-ſhores, and away again. They fly in flocks. [In the month of *February*, in the year of our Lord 1671, on the Coaſt of *Lancaſhire* about *Leverpool*, I obſerved many of this ſort of birds flying in company; ſo that they are not peculiar to *Lincolnſhire*.] Being fed with white bread and milk they grow very fat, and are accounted excellent meat. King *Knout* is reported to have been ſo fond of them, that from him they got the name of *Knots* or *Knouts*.

They may at firſt ſight be eaſily diſtinguiſhed from the *Tringæ* by the line of white croſs their Wings, were other notes wanting.

Chap. VIII.

The Ruff, whoſe Female is called a Reeve. Avis pugnax * Aldrov.

* Tom. 3. p. 413.

That we deſcribed was a young one. It weighed five ounces: Its length from the tip of the Bill to the end of the Feet was fifteen inches. Its Neck was aſh-coloured: Its Head of a dusky aſh-colour, ſpotted with a dark brown. The Back and ſcapular feathers particoloured, of cinereous, black, and white: The Breaſt and Belly white: The Throat white and cinereous: The Chin white. The outmoſt ten Wing-feathers of the firſt row were black: Of the following the tips began to be white: From the fourteenth to the twentieth the edges were alſo white. The five next the body were of the ſame colour with it, having darker ſpots. The tips of the ſecond row of Wing-feathers were white (of the foremoſt more obſcurely) the remaining part of the ſame colour with the Back. The covert-feathers of the under ſide of the Wing were white. Thoſe of the exteriour baſtard wing purely white. The Tail was two inches a quarter long, made up of twelve feathers, of a dusky colour, with whitiſh tips.

In the Cock birds a circle or collar of long feathers, ſomething reſembling a Ruff, encompaſſes the Neck under the Head, whence they took the name of *Ruffs*. This ſhaft in ſome is white, in ſome yellow, in ſome black, in ſome aſh-coloured, in ſome of a deep blue, or black, with a gloſs of blue ſhining like ſilk. For there is wonder-

full

ful and almoſt infinite variety in the colours of the feathers of the Cocks, ſo that in the Spring-time there can ſcarce be found any two exactly like one to another. After Midſummer, when they have moulted their feathers they ſay they become all alike again.

The Hens are ſomewhat leſs than the Cocks; they change not their colours, and are like the Bird here deſcribed: They ſeldom or never fight.

Their Bills are like the *Tringa's*, black, but ſomewhat red about the Noſthrils. The upper Mandible a little longer than the nether. The Tongue reaches to the end of the Bill. The Eyes are hazel-coloured. The Legs from yellow incline to red: The back-toe ſmall: The outmoſt fore-toe joyned to the middlemoſt below with a membrane: The Claws black, pretty long, and almoſt ſtreight. The Stomach within yellow: The Gall large.

They breed in Summer-time in the Fens of *Lincolnſhire* about *Crowland*. They are fatted with white bread and milk, like *Knots*, being ſhut up in cloſe dark rooms: For let in but the light upon them, preſently they fall a fighting, never giving over till one hath killed the other, eſpecially if any body ſtand by. The Fowlers when they ſee them intent upon fighting, ſpread their Nets over them, and catch them before they be aware.

In the Spring time they come over alſo to the *Low Countries:* And it is reported, that at their firſt coming in the beginning of the Spring there are many more Cocks than Hens, but that they never ceaſe fighting till there be ſo many Cocks killed, as to make the number of both Sexes equal.

The Hens never have any Ruffs, the Cocks have none immediately after moulting time. When they begin to moult, white Tumours or Warts break out about their Eyes and Head.

Chap. IX.

The Sanderling, called alſo Curwillet about Penſance *in* Cornwal.

IT is ſomthing bigger than the *Sand-piper*, though both take their names from ſand. It weighs almoſt two ounces. Its length from the Bill to the end of the Feet is eight inches and an half, to the end of the Tail eight. The breadth of the Wings ſpread ſixteen. It is rather long than round-bodied.

Its Bill is ſtreight, black, ſlender, an inch long; for its figure and make like to a *Tringa's* Bill: The upper Mandible a little longer than the nether. The Tongue extended to the end of the Bill: The Noſthrils oblong. The Ears great. The Legs, Feet, and Claws black: And, which is eſpecially remarkable, it wants the back-toe: The fore-toes disjoyned from the very riſe.

The Head is ſmall, particoloured of cinereous and black. The Neck more cinereous. The middle of the Back, the Shoulders, and ſcapular feathers are of a lovely colour, in ſome various, of black and white; in others of black and aſh-colour, each feather being black about the ſhaft, and cinereous about the edges. The reſt of the Back to the Tail is of the ſame colour, but more faint and dilute. But the edges of the feathers have more of a reddiſh aſh-colour.

Each Wing hath twenty two quil-feathers: The four outmoſt (excepting the ſhafts, which are white) all of a dark brown, or dusky colour. The reſt have their upper halves, as far as they appear, above the ſecond row brown, the lower white. Howbeit, theſe colours do not divide all the feathers equally, but from the fifth the white is gradually increaſed, ſo that in the twentieth it takes up almoſt the whole feather. The next following after the tenth have alſo their tips white. The firſt row of covert-feathers [next the quils] have white tips, which when the Wing is ſpread make a long tranſverſe white line, broader and broader by degrees from the beginning. The feathers near the ridge of the Wing, and on the outmoſt joynt, are all dusky, in the Cocks almoſt black, of the ſame colour with the middle of the Back. The Wings, when cloſed, reach as far or further than the Tail it ſelf; which is ſhort, of about an inch and half, or two inches, conſiſting of twelve feathers, of an aſh-colour: The two middlemoſt darker than the reſt, and almoſt black.

The whole Belly and underſide of the Wings as white as Snow. The Breaſt in ſome ſpotted or clouded with brown; in others (perhaps theſe are the Males) no

ſpots

ſpots appear, yet the Breaſt is darker than the Belly, and inclined to red. The blind guts are an inch and half long. The Stomach not very muſculous. Theſe birds live upon the ſandy ſhores of the Sea, and fly in flocks. We ſaw many of them on the Sea-coaſts of *Cornwall*.

Chap. X.

* *The* Rotknuſſel *of Baltner*, Rotkmillis *or* Gallinula Melampus *of Geſner*, * *Aldrov.*

* Lib. 20. cap. 45.

THe *German* name *Rotkmillis* (ſaith *Geſner*) ſeems to be compounded of the colour. For this Bird is of a red or ruſſet colour, with dusky ſpots in the Neck and about the Eyes. But *Kmillis* (I know not whence derived) is a more common or general word; ſith another Water-hen of this kind is alſo called *Matkmillis*. We from the colour of the Legs have impoſed on it the name *Melampus*, which ſignifies *Black-foot*. For there is no bird I know of this kind that hath blacker feet. The body is dusky, with ſome ſpots of a ſordid and dark colour. The Bill alſo is black: The Wings marked with black ſpots.

To this Bird (ſaith *Aldrovand*) that which I here give you, called by our Fowlers *Giarola*, a name common to many birds, is very like, if not the ſame. For on the Head, Neck, and Breaſt, down to the middle of the Belly it is red, ſprinkled with brown, and ſometimes alſo white ſpots. Its Feet [and Legs] are cole-black. The ſmall Wing-feathers are diſtinguiſhed with cinereous and black: The great ones are black. The Bill is long, and a little bending, ſharp at point. The Belly is white, with a tincture of red, and curiouſly ſpotted with black ſpots. The Tail alſo is white, but black at the end.

Chap. XI.

* Matkneltzel *of Baltner*: Gallinula Erythra *of Geſner.*

THis Bird the *Germans* call *Matkern*, but for what reaſon (ſaith *Geſner*) I know not. I from the colour of its whole body have called it *Erythra*. But though almoſt the whole body (I except the Belly, which is whitiſh, with a faint tincture of red, and the Legs, which are aſh-coloured) be red, yet is that redneſs darker on the Back, and intercepted with white ſpots: Brighter in ſome of the Wing-feathers; the longeſt whereof approach to the colour of red Oker. In the Neck beneath are ſome white ſpecks. The Bill is black, not without ſomewhat of red, ſhorter than in moſt others of this kind. It is taken among Reeds with ſnares. It hath a cry ſomewhat reſembling the ſound of Fullers ſtriking of Wool.

Leonard Baltner deſcribes his *Matkneltzel* (if at leaſt it be the ſame bird with *Geſners Matkern*) thus: It is a very fair beautiful bird. From the tip of the Bill to the end of the Claws it is a full *Strasburgh* Ell long. It weighs ſix Lots and an half, that is, three ounces a quarter: For a Lot is about half an ounce. It Guts are an Ell long. It frequents Waters, and ſeeks its meat in watery places. The Cocks are adorned with beautiful feathers, like thoſe of *Partridges*, and have pale-red Feet. The feathers of the Hens are leſs beautiful, and their Feet grey. Some alſo weigh thirteen Lots, and are three quarters of a Ell long. *Theſe birds in figure, magnitude, and colour do very nearly reſemble the Female* Ruffs, *which they call* Reeves. *Whether they be the ſame or not let the Virtuoſi at* Strasburgh, *where they are found, examine.*

Chap.

Chap. XII.

The North-Country Dunlin *of Mr.* Johnson.

It is about the bigneſs of the *Jack-Snipe* or *Judcock*, hath a ſtreight, channell'd, black Bill, a little broader at the end; oblong Noſthrils; a blackiſh Tongue. The Throat and Breaſt white, ſpotted with black. The middle of the Belly is blackiſh, waved with white lines. The lower Belly, and feathers under the Tail white. All the upper ſide is red, every where ſpotted with pretty great black ſpots with a little white. Yet the Wings from a * grey incline to a brown or dusky colour. The Legs and Feet are of a † competent length, and black. The back-toe the ſhorteſt. The Tail conſiſts of twelve feathers, of which the two middlemoſt are dusky [brown] with one or two red ſpots: the reſt from brown incline to white. It gets its food out of the mud.

* *pro.*

† *Longiuſcula, i. e.* rather of the longeſt.

The *Rotknuſſel* or *Gallinula melampus* of *Geſner* and *Aldrovand* differs not much from this bird.

Chap. XIII. §. I.

The Stint, which the French call the Sea-Lark: Schœniclos ſeu Junco *Bellonii*: An Cinclus prior *Aldrov*?

It is equal to the common *Lark*, or but very little leſs: For the ſhape of its body like to a *Snipe*. From Bill to Feet eight inches and an half long. Its Bill is ſtreight, ſlender, black, an inch and half long, and like to a *Snipes* bill. The Tongue extended to the end of the Bill. The Feet dusky or blackiſh, with a tincture of green. The toes not joyned by any membrane. The back-toe ſmall. The colour of the upper ſide of the body, excepting the prime feathers of the Wings, and firſt row of coverts, is grey, or cinereous, with black ſpots, or lines in the middle of each ſingle feather. The feathers in the middle of the Back and upper ſide of the Wings have a tincture of red. [Mr. *Willughby* deſcribes it a little differently thus: The middle parts of the feathers on the Head are black, the edges red or ruſſet. The Neck is more of an aſh-colour. The Back-feathers of a * dark purple, with reddiſh aſh-coloured edges. Thoſe on the Rump of a lighter red, with black lines or ſtroaks down their ſhafts.]

* Or black with a purple gloſs.

The Wings are long, and when folded up reaching to the end of the Tail. The quil-feathers of each Wing twenty four, of a dusky colour as far as they appear above the covert-feathers, for their bottoms are white, and the interiour in order gradually more than the exteriour to the nineteenth, which is almoſt wholly white. [Mr. *Willughby* in the bird he deſcribed obſerved the tips of the ſecond row of Wing-feathers to have been alſo white, in the ſame proportion as in the *Sanderling*, making together a white line croſs the Wing, yet narrower than in that. The exteriour edges of the fifth, counting from the outmoſt, and of the ſubſequent to the eleventh are white. The four next the body are wholly dusky, and by little and little ſtreightned into ſharp points, and when the Wing is cloſed reach almoſt to the end of the Tail. The Tail is ſcarce two inches long, not forked, made up of twelve feathers, of which the two middlemoſt are longer than the reſt, ſharper pointed alſo, and darker-coloured. All the reſt are of a pale aſh-colour, without any croſs lines or bars, only their outmoſt edges whitiſh. All the under-ſide of the body is white, only the Throat and upper part of the Breaſt clouded a little with dark-coloured ſpots. Mr. *Willughby* obſerved ſmall brown ſpots under the Wings, and the Throat to be of an aſh-colour, thick-ſet with black ſpots, down ſometimes to the Breaſt.

The Liver divided into two Lobes, of which the right is much the bigger. The Stomach muſculous.

Theſe Birds live about the Sea-ſhores, and fly together in flocks. At *Weſtcheſter* they call them *Purres*.

Bellonius his deſcription of his *Junco* agrees in all points with this bird. His figure repreſents the Bill too ſhort. The Bill of the *Cinclus* alſo in *Aldrovands* figure is drawn too ſhort.

§. II.

* Lib. 20. cap. 56.

* *The third* Cinclus *of* * *Aldrovand.*

IT is of the same colours with the precedent, save that it hath a white Tail, adorned with transverse black lines: It hath also the same shape and make of body. It differs in the Bill; for that hath it of almost an even bigness, this thicker where it is joyned to the Head, and by degrees slenderer to the tip. It seems also to differ in the Legs, they being somewhat longer and thicker. In bigness it agrees, and hath also a common name with it, being called by our [the *Bologneſe*] Fowlers, *Giaroncello.*

Chap. XIV.

The Stone-Curlew: The Oedicnemus *of Bellonius:* Charadrius *of Geſner,* * *Aldrov. called at* Rome, Curlotte.

* Lib. 13. c. 15.

ITs weight is eighteen ounces: Its length from Bill to Tail eighteen inches, to the points of the Claws twenty: Its breadth from tip to tip of the Wings extended thirty six inches. The length of the Bill, measuring from the tip to the angles of the mouth, two inches. The Bill is not much unlike a *Gulls*, but streight, sharp-pointed, black as far as the Nosthrils, then yellow. The *Irides* of the Eyes and edges of the Eye-lids are yellow. Under the Eyes is a bare space of a yellowish green colour. The Legs are long and yellow. The Claws small and black. It hath only three fore-toes, wanting the back-toe. The outmost Toe a little longer than the middlemost; All joyned together by a certain membrane, which on the inside the middle toe begins at the second joynt, on the outside at the first, and reaches almost to the Claws of the outer Toes. The Legs (as *Bellonius* observes) are very thick below the Knees, as if they were swoln, by reason of the bones, which are there great; wherefore that he might render the Bird more easie to be known, he named it, *Oedicnemus.* The upper Legs are above half way bare of feathers; which note alone, were there no other, argues this Bird to be a Water-fowl. The Chin, Breast, and Thighs are white: The Throat, Neck, Back, and Head covered with feathers, having their middle parts black, their lateral or borders of a reddish ash-colour, like that of a *Curlew:* Whence they of *Norfolk* call it, The *Stone-Curlew.*

In each Wing are about twenty nine quil-feathers; the first and second of which have a transverse white spot, else their exteriour surface black: The four next to these black: The three following have their bottoms and tips white: Then succeed thirteen black ones; the last or next to the body are of the same colour with it. The first feathers of the second row are black: The rest have white tips, and under the tips a cross line or border of black. In the lesser rows of Wing-feathers is a transverse bed or bar of white. The coverts of the under-side of the Wings, especially those springing from the shoulders, are purely white. The outmost feathers of the Tail for the space of an inch are black, then white: The next to these, one on each side, are variegated, with one or two brown bars crossing the white part: The rest, the white by degrees fading and disappearing, become of the same colour with the body. The tips of the middlemost are a little black. The Tail is five inches long, consisting of twelve feathers. The guts great: The blind guts three inches long: The single umbilical blind gut half an inch. We bought this bird in the Market at *Rome*, and there described it.

It breeds very late in the year (saith *Bellonius*) for we found of the Young about the end of *October*, which could not yet fly. *Bellonius* when he travelled first in *England*, observed this Bird here; for the feathers and the Feet very like to a *Buſtard.*

The learned and famous Sir *Thomas Brown* Knight, Physician in *Norwich*, informed us, that it is found about *Thetford* in *Norfolk*, where they call it the *Stone-Curlew*, and that its cry is something like that of a *green Plover.*

Another bird congenerous to this, wanting also the back-toe, (which *Aldrovandus* described from the intuition of a bare Picture) but different in that its Thighs are feathered, and its Toes without any intermediate membrane, see in his *Ornithology*, Book 13.

Book 13. Chap. 15. I ſuſpect it to be the ſame with the *Oedicnemus*, and thoſe different notes to be but miſtakes of the Painter.

The *Charadrios* of *Geſner*, which *Aldrovand* judges to be the ſame with our *Oedicnemus*, is a fooliſh and ſtupid bird. Being ſhut up in any room, it walks up and down, ſometimes in a round about a Pillar or any other thing for a long time, and if any block or impediment be in its way it will rather leap over it, than decline from the right way. *It ſhuts not its Eyes though you put your finger to them. It is eaſily made tame, for when it is at liberty in the fields it is not much afraid of a man. It is a Water-fowl, and lives in fenny Meadows, or about Marſhes. In houſes alſo it catches Mice in the night time. I hear that it abounds in the *Low Countries*, that it wanders up and down in the night, and makes a noiſe like a Whiſtle, or Pipe.

The *Charadrios* of *Geſner*.

* It winks not.

SECTION VI.

Cloven-footed Water-fowl with ſhort Bills, that feed upon Inſects.

CHAP. I.

The Lapwing or Baſtard Plover: Capella ſive Vannellus.

THis Bird is in all Countries very well known; and every where to be met with. In the North of *England* they call it the *Tewit*, from its cry. It is of the bigneſs of a common *Pigeon*, of eight ounces weight; thirteen inches and an half length, meaſuring from Bill to Claws, and not much leſs from Bill to Tail: Its breadth, taken between the tips of the Wings ſpread out, is twenty one inches.

The top of the Head above the Creſt is of a ſhining black. The Creſt ſprings from the hind part of the Head, and conſiſts of about twenty feathers, of which the three or four foremoſt are longer than the reſt, in ſome birds of near four inches length. The Cheeks are white; only a black line drawn under the Eyes through the Ears. The whole Throat or under ſide of the Neck, from the Bill to the Breaſt is black, which black part ſomewhat reſembles a Creſcent, ending in horns on each ſide the Neck. The Breaſt and Belly are white: As are alſo the covert feathers of the underſide of the Wings. The feathers under the Tail are of a lovely * bright bay: Thoſe above the Tail are of a deeper bay: The feathers next them are dusky, with a certain ſplendour. The middle of the Back and the ſcapular feathers are of a delicate ſhining green, adorned with a purple ſpot on each ſide next the Wings. The utmoſt edges of the tips of the middlemoſt of the long ſcapular feathers are whitiſh. The Neck alſo is of an aſh-colour, with a mixture of red and ſome black lines near the Creſt.

* *Dilutè ſplendicea.*

Of the maſter-feathers of the Wing the three or four outmoſt are black, with white tips: The following to the eleventh are black. From the eleventh they are white at bottom, the hindmoſt more and more in order than the foremoſt. Yet this white doth not appear in the upper ſide of the Wing, but is hid by the covert-feathers. Thoſe next the body from the twenty firſt are green. The leſſer covert-feathers are beautified with purple, blue, and green colours, variouſly commixt. The outmoſt feather of the Tail on each ſide is white, ſaving a black ſpot in the exteriour Web. The tips of all the reſt are white, and beneath the tips the upper half black, and the lower white. The Bill is black, hard, roundiſh, of an inch length. The upper Mandible a little more produced: The Tongue not cloven; but its ſides reflected upwards make a channel in the middle. The Noſthrils oblong, and furniſhed with a flexile bone. The Ears ſeem to be ſituate lower in this than other Birds: The Eyes are hazel-coloured.

The Feet are long, reddiſh [in ſome Birds brown.] The back-toe ſmall. The outmoſt of the fore-toes joyned to the middle one at the bottom.

The liver is large, divided into two Lobes, with a Gall annexed. The Gizzard not ſo thick and fleſhy as in granivorous birds, therein we found Beetles like to Meal-worms. It is infeſted with Lice like the *Tetrao*.

* That black ring, representing a crescent, we spake of.

The Hen is a little lesser than the Cock: Her throat is all white as low as the * collar: The bay colour under the Tail paler. Moreover, the outmost feather of the Tail is wholly white, wanting that brown spot. The colours also in the Cocks do somewhat vary, not answering always exactly in all things to our description.

It lays four or five Eggs, of a dirty yellow, all over painted with great black spots and stroaks. It builds its Nest on the ground, in the middle of some field or heath, open, and exposed to view, laying only some few straws or bents under the Eggs, that the Nest be not seen. The Eyes being so like in colour to the ground on which they lie, it is not easie to find them though they lie so open. The Young so soon as they are hatcht instantly forsake the Nest, running away (as the common tradition is) with the shells upon their heads, for they are covered with a thick Down, and follow the old ones like Chickens. They say, that a *Lapwing* the further you are from her Nest, the more clamorous she is, and the greater coil she keeps, the nearer you are to it, the quieter she is, and less concerned she seems: That she may draw you away from the true place, and induce you to think it is where it is not.

These Birds are wont to be kept in Gardens in the Summer time, in which they do good service in gathering up and clearing the ground of Worms and other Insects. Their flesh is indifferent good meat. In Summer time they scatter themselves about the Country to breed: In Winter time they accompany together, and fly in flocks.

Chap. II.

Of the Plover: De Pluviali seu Pardale.

§. I.

The green Plover. Pluvialis viridis.

In bigness it equals or exceeds the *Lapwing*, weighing about nine ounces; being in length from Bill to Tail eleven inches, in breadth between the tips of the Wings extended twenty four.

Its colour on the top of the Head, Neck, Shoulders, Back, and in general the whole upper side is black, thick set with yellowish green spots. If you heed each single feather, you will find the middle part to be black, the borders or edges round about spotted with a yellowish green colour. The Head for the bulk of the body is greater than in the *Fringæ*; the Bill streight, black, of an inch length, furrowed about the Nosthrils. The Neck short, equal to a *Lapwings*. The Breast brown, spotted with a yellowish green. The belly white, yet the feathers on the sides tipt with brown, and crossed also with brown lines.

Of the quil-feathers in each Wing the eleventh ends in a blunt point, those before it running out into sharp points on the outside the shaft, those behind it on the inside. All but the five next the body are brown. The shafts of the outmost eight or nine are half way white. The exteriour edges of the fifth, and those following it, are a little white toward their bottoms. The inmost five next the body are of the same colour with the Back. The second row of Wing-feathers are brown, [or dusky] with white tips. The rest of the covert-feathers are on the upper side of the Wing of the same colour with the Back, on the under-side with the Belly. The Tail is short, made up of twelve feathers, of the same colour with the Back, when spread terminated in a circular circumference.

The Feet and Claws are black. It wants the back-toe: By which note alone it is abundantly distinguished from the other birds of its kind. Its Legs are long, as in all other birds which live about waters, and bare of feathers for some space above the knees. Its flesh is sweet and tender, and therefore highly esteemed, and accounted a choice dish, as well in *England* as beyond Seas.

This Bird from its spots, something resembling those of a *Leopard*, is called *Pardalis*.

§. II.

The grey Plover: Pluvialis cinerea, *called at Venice,* Squatarola.

IT is from Bill to Tail twelve inches long, to the Claws fourteen: Between the tips of the Wings ſpread twenty four inches broad. Its Head, Back, and leſſer coverts of the Wings are black, with tips of a greeniſh grey. The Chin is white; the Throat ſpotted with oblong, brown [or dusky) ſpots. The Breaſt, Belly, and Thighs white.

The quil-feathers in each Wing about twenty ſix: Of which the firſt or outmoſt are black: In the fourth the middle part of the outer edges is white, the white part in the five following being enlarged gradually. The outmoſt of the ſecond row of Wing-feathers are alſo black. The tips of thoſe next after the fourth are white, and the edges too after the tenth. Of the third row the foremoſt ten are black, with white tips. The Tail is three inches long, not forked, varied with tranſverſe bars, or beds of black and white.

Its Bill is black, above an inch long, like to the reſt of this kind: The Tongue not cloven: The back-toe very ſmall: The fore-toes joyned by a membrane at the beginning of their divarication; that between the middle and inmoſt leſſer: The Feet of a ſordid green: The Claws little and black. It hath a Gall.

The fleſh alſo of this Bird is very tender, ſavoury, and delicate; and in no leſs eſteem than that of the former.

Chap. III.

The Dottrel: Morinellus Anglorum.

THe Males in this kind are leſſer than the Females, at leaſt they were ſo in thoſe we hapned to ſee: For it might fall out to be ſo among them by ſome accident. The Female was almoſt ten inches long, the Male but nine and an half; the Female nineteen inches and an half broad, the Male but eighteen three quarters: The Female weighed more than four ounces; the Male ſcarce three and an half. The Bill, meaſuring from the tip to the angles of the mouth, was an inch long: The Head elegantly variegated with white and black ſpots, the middle part of each ſingle feather being black. Above the Eyes was a long whitiſh line: The Chin whitiſh. The Throat is of a pale cinereous or whitiſh colour, with oblong brown ſpots. The Breaſt and underſide of the Wings of a dirty yellowiſh colour, the Belly white. Each Wing hath about twenty five prime feathers, of which the firſt or outmoſt is the longeſt, the tenth the ſhorteſt; from the tenth to the twentieth they are almoſt equal: The reſt to the twenty fourth are again longer the foregoing than the following. The firſt or Pinion-quil hath a broad, ſtrong, white ſhaft: The three outmoſt are blacker than the reſt, which are of a dusky [or brown] colour, having the edges of their tips whitiſh. The leſſer rows of the Wing-feathers are brown, with yellowiſh white tips, but thoſe next the quils blackeſt. The middle of the Back between the Wings is almoſt of the ſame colour with them. The Rump and Neck are more * cinereous. The Tail is compoſed of twelve feathers, two inches and an half long, but the middlemoſt ſomething the longer: The bottoms of all are cinereous, the tips white, the remaining part black: In the outmoſt feather the white part is broader, in the middle ones narrower: The edges alſo of the outmoſt feathers are whitiſh. The Legs are bare for a little ſpace above the Knees, of a ſordid or greeniſh yellow; the Toes and Claws darker coloured than the Legs. The inner Toe joyned to the middle only at bottom, the outer by a thick membrane as far as its firſt joynt. It wants the back-toe, wherein it agrees with the *green Plover*, from which yet it is ſufficiently diſtinguiſhed by its colour, magnitude, and other accidents. Its Bill is ſtreight, black, and in figure like that of the *Plover*. It hath a fleſhy ſtomach, in which diſſected we found fragments of *Beetles*, &c. Its guts were fourteen inches and an half long. The Cock and Hen can ſcarce be known aſunder, they are ſo like in ſhape, and colour.

* Grey.

It is a very fooliſh bird (ſaith Dr. *Key* in his Letter to *Geſner*) but excellent meat, and with us accounted a great delicacy. It is taken in the night time by the light of a Candle,

Candle, by imitating the geſtures of the Fowler: For if he ſtretches out an Arm, that alſo ſtretches out a Wing; if he a Foot, that likewiſe a Foot: In brief, whatever the Fowler doth, the ſame doth the Bird; and ſo being intent upon mens geſtures it is deceived, and covered with the Net ſpread for it. I call it *Morinellus* for two reaſons, firſt, becauſe it is frequent among the * *Morini*: And next, becauſe it is a fooliſh bird, even to a Proverb, we calling a fooliſh dull perſon a *Dotterel*.

* Flemmings.

Of the catching of *Dotterels*, my very good Friend Mr. *Peter Dent*, an Apothecary in *Cambridge*, a Perſon well skill'd in the Hiſtory of Plants and Animals, whom I conſulted concerning it, wrote thus to me. A Gentleman of *Norfolk*, where this kind of ſport is very common, told me, that to catch *Dotterels* ſix or ſeven perſons uſually go in company. When they have found the Birds, they ſet their Net in an advantageous place; and each of them holding a ſtone in either hand get behind the Birds, and ſtriking their ſtones often one againſt another rouſe them, which are naturally very ſluggiſh; and ſo by degrees coup them, and drive them into the Net. The Birds being awakened do often ſtretch themſelves, putting out a Wing or a Leg, and in imitation of them the men that drive them thruſt out an Arm or a Leg for faſhion ſake, to comply with an old cuſtom. But he thought that this imitation did not conduce to the taking of them, for that they ſeemed not to mind or regard it.

Chap. IV.

The Sea-Lark: Charadrius ſive Hiaticula.

In bigneſs it ſomewhat exceeds the common *Lark*: From the point of the Bill to the end of the Tail or Legs (for they are equally extended) being eight inches and an half long, a line of black compaſſes the baſe of the upper Bill. This black line from the corners of the mouth is produced through the Eyes as far as the Ears, and then turns up and paſſes croſs the middle of the Head, encompaſſing a broad bed or fillet of white drawn from the inner corner of one Eye to the inner corner of the other. The hinder part of the Head is aſh-coloured: The Chin white. The Neck encompaſſed by a double ring or collar, the upper white, which underneath reaches as far as the Bill, and under the Chin is dilated almoſt to the Eyes; the lower black, which is broader in the middle, and takes up part of the Breaſt, before alſo runs out toward the Bill. The Back and leſſer covert feathers of the Wings are * aſh-coloured. The Breaſt and Belly white.

* Or grey.

The outmoſt of the quil-feathers of the Wings is black, on the middle of the ſhaft only ſpotted with white, which colour ſpreads it ſelf gradually and continually more and more in the following feathers, inſomuch that the twentieth and twenty firſt are wholly white. Thoſe next the body are of the ſame colour with the Back. The feathers of the ſecond row have white tips, excepting the foremoſt or outmoſt. Hence, and from the white of the firſt row ariſes a long tranſverſe white line in the Wings. The outmoſt feather of the Tail on each ſide is white, as alſo the tip and exteriour half of the next; of the three following only the tips: The two middlemoſt are of the ſame colour with the Back, or a little darker. The Tail is two inches and an half long, made up of twelve feathers, of which the outmoſt are the longeſt, of the reſt the interiour are a little ſhorter in order than the exteriour. [The Tail-feathers in divers birds vary in colour, for in ſome the two outmoſt feathers are wholly white, and the tips alſo of the middlemoſt.]

The Bill is ſhort, ſcarce an inch in length, of two colours: For beneath toward the Head it is of a deep yellow or gold-colour more than half way, toward the point black. The upper Mandible a little longer, and ſomewhat crooked. [In others (perhaps they were young ones) we obſerved the whole Bill to be black.] The Tongue is not divided: The Eyes are hazel-coloured: The Legs and Feet of a pale yellow: The Claws black. It wants the back-toe. The outmoſt of the fore-toes is joyned to the middlemoſt by a membrane reaching to the firſt joynt. The Stomach hath not very thick muſcles, in it diſſected we found *Beetles*. The Gall-bladder is large.

It builds on the Sea-rocks, making its Neſt of graſs, ſtraws, and ſtalks of Plants: Its Eggs are of a greeniſh colour, ſpotted with brown, all the blunt end being dusky. It runs very ſwiftly on the ſhores, and makes ſhort flights, ſinging or crying continually

continually as it flies. It is with us in *England* every where very common upon the Sea-coasts. We saw it also about the Lake of *Geneva*, and it hath been brought to us killed upon the banks of the River *Trent*, not far from *Nottingham*.

This Bird is the very same which *Marggravius* describes, *Book* 5. *Chap.* 5. by the name of *Matuitui*, as he saith the *Brasilians* call it, as will clearly appear to him that shall but compare them together. So that it seems there are some Birds common to *Europe*, and even the Southern part of *America*. *Leonard Baltner* describes and pictures two sorts of this bird. Perchance his lesser kind is that which the *Welsh* call *Goligod*, and say is like a *Sea-Lark*, but less.

Chap. V.

The Turn-stone, or Sea-Dottrel: Morinellus marinus *of Sir Thomas Brown.* An Cinclus Turneri?

IT is lesser than a *Plover*, and something bigger than a *Blackbird:* in length from the tip of the Bill to the points of the Claws ten inches: In breadth between the extremities of the Wings extended twenty. It is long-bodied, and hath but an indifferent Head. The Cocks and Hens differ not in colours. Its Bill is streight, black, an inch long, from a thick base lessening by degrees into a sharp point, something flat, stronger and stiffer than in the *Woodcock* kind.

The colour of the Plumage in the Head, Neck, Shoulders, Wings, and upper part of the Breast is brown. [Mr. *Willughby* makes the feathers covering these parts to be black, or purplish black in the middle, cinereous, or of a white russet about the edges.] All the under-side, but the Breast, is as white as snow. The Plumage on the middle of the Back is white; but on the very Rump is a great, transverse, black spot. The long scapular feathers are brown, with edges of an ash-colour, or dirty white. The quil-feathers of the Wings are about twenty six, of a brown or dusky colour: But from the outmost three or four their bottoms are white, continually more and more, till in the nineteenth and twentieth the white spreads almost over the whole feather. In the second row the foremost feathers are wholly black: The tips of the following being white, together make a broad line of white cross the Wing. The edges of the lesser rows are red. Near the second joynt of the Wing is a white spot. The Tail is two inches and an half long, consisting of twelve feathers, of which the lower half is white, the upper black, yet the very tips white.

The Legs are short, of a Saffron or Orange colour. The Claws black: The Toes divided almost to the bottom, but the outmost and middle toe coupled by a membrane as far as the first joynt. It hath the back-toe.

The Liver is divided into two Lobes, of which the * *dexter* is much the bigger. I found no Gall, yet dare not say that it wants one. Upon the Western shores of *England*, about *Pensans* in *Cornwal*, and *Aberdaren* in *Merioneth*-shire in *Wales*, we observed many of them, where they fly three or four in company: Nor are they less frequent on the Sea-coasts of *Norfolk*.

* That on the right side.

Our honoured Friend Sir *Thomas Brown* of *Norwich* sent us the Picture of this bird by the title of the *Sea-Dottrel*.

Chap. VI.

* *The first* Junco *of* * *Aldrovand.*

* Book 10. Chap. 55.

IT is of the bigness of a *Sparrow*, hath a black, channelled Bill, sufficiently hard, and crooked at the end; the Tongue also channelled, and at the tip hard, and cloven. The upper part of the Head, Neck, and the Belly are of a chesnut-colour. All the underside of the Neck and Breast white. All the other parts of the body from * dusky incline to black. The Tail is three inches long, consisting of ten feathers: The Legs and Feet dusky. The Cock differs from the Hen only in this, that in her the colours are more dull, in him more lively.

* Are of a dark brown.

To

To this *Aldrovand* adds another, which being altogether of the ſame bigneſs, the ſame ſhape and faſhion of body, and make of Bill and Feet, he thinks to be of kin to it, but to differ only in colour. For its Throat and Breaſt indeed are white, but its whole Belly from cinereous inclines to dusky [or brown.] The reſt of the Plumage is dusky.

BOOK III. PART II.

Birds of a middle nature between Swimmers and Waders, or that do both Swim and Wade.

Of theſe there be two kinds, the one of cloven-footed Birds that ſwim, the other of whole-footed with long Legs.

SECTION I.

Cloven-footed Birds that ſwim in the Water.

I.

Such whoſe Toes have no lateral membranes, called Water-Hens.

Chap. I.

Of Water-hens or More-hens in general.

THe Characteriſtic notes of *Water-hens* or *More-hens*, by which they may be diſtinguiſhed from other kinds of Birds, are a ſmall Head, a ſlender, compreſſed, or narrow Body: A ſhort Bill, moderately bending; ſhort concave Wings, like to Hens; a very ſhort Tail; long Legs; very long Toes: Short flights.

They are called * *Gallinulæ* by modern Writers, a diminutive word from *Gallina*, which ſignifies a Hen, for the likeneſs of their bodies, (eſpecially their Bills and Wings) and conditions to *Hens*.

* *i.e.* Little Hens.

Chap. II.

Of Water-hens in particular.

§. I.

The common Water-hen or More-hen: Gallinula chloropus major *Aldrovandi.*

IN ſhape of body it is like a *Coot*, but ſmaller: Narrow-bodied, or very much compreſſed ſideways (which is common to all this kind) contrary to the *Duck-kind*, whoſe bodies are broad, flat and depreſſed. The Hen weighed twelve ounces, the Cock fifteen. The length of the Hen from the point of the Bill to the end of the Feet was more than ſeventeen inches, to the end of the Tail thirteen and an half; of the Cock fourteen and an half. The extremes of the Wings extended were twenty two inches and an half diſtant:

The

The Bill from the tip to the corners of the mouth was more than an inch long, streight, or but little bending: The nether Chap, as far as the angle, of a pale yellow, then red; the upper less yellow at the end; about the Nosthrils, and to the end of the bald part red. The bald part is round, and ends at the top of the Head, being like that of a *Coot*, save that the *Coots* is white, but this birds red. The redness on the Bill is as it were plaistered on, and may be scraped off. The red part of the Bill is separated from the yellow by a round circumference a little elevated, so that in the middle of the Bill it is produced further than on the sides. The Tongue is pretty broad, not cloven, rough at the end. The *Irides* of the Eyes are red. The lower Eye-lid is not feathered. [In the young birds neither the Bill, nor the bald spot in the forehead are red.] The Legs are green: The Claws of a dark brown, near black, indifferently long. The Toes long, as in the *Coot*; the middle the longest, next the outmost, all broader and plainer below than in the other cloven-footed birds for the use of swimming: The back-toe broad, as in *Coots*, serving them perchance as a Rudder, to steer and direct their course. The Legs are feathered almost down to the knees, between the feathers and the joynt marked with a red spot.

The Bill. The Tongue, Eyes, Legs, Claws, Toes,

From the Shoulders or setting on of the Wing all along its base or ridge, and to the very ends of the feathers runs a line of white. The longer feathers under the Wings are curiously adorned with white spots, or lines tending downwards. The Breast is of a lead-colour: The Belly inclining to grey or ash-colour. Under the Tail are white feathers; as it swims or walks it often flirts up its Tail, and shews the white, especially when it puts down its head to pick up any thing. The Back and lesser rows of Wing feathers approach to a * ferrugineous colour: Else it is all over blackish. In the Male the feathers under the Tail are whiter, the Belly more † cinereous, and the Back more ferrugineous.

The colour of the feathers. * Rusty. † Ash-colour-red or grey.

Its Liver is small; Gall-bladder great; the Gall within being of a greenish black colour. It will feed very fat. Its flesh is well tasted, and even comparable to that of *Teal*. It gets its food on grassie banks and borders near Waters, and in the very Waters, especially if they be weedy: Feeding (I suppose) upon the water-Insects it finds among the weeds. It builds upon low trees and shrubs by the water side; breeding twice or thrice in a Summer, and when its young ones are grown up it drives them away to shift for themselves. Its Eggs are sharp at one end, white, with a tincture of green, spotted with reddish spots. It strikes with its Bill like a Hen: It sits upon boughs, but those only that are thick and near the water. It lives about Motes and great Pools of water near Gentlemens houses. It flies with its Feet hanging down.

The Liver and Gall. Its flesh good meat. Its food. Its breeding, Eggs, Manners, Place.

§. II.

The other green-footed Water-hen of Aldrovand, perchance our Water-Rail.

THis Bird from the tip of the Bill to the end of the Tail is almost eighteen inches long. It hath a Bill two inches long, both above and underneath for some space yellow, the remaining part being black. The Neck and Head are black: The Back and upper part of the Wings of a chesnut-colour: The nether part of a dark cinereous: Only the extremes of the Wings are white. The lower Belly also is almost all white. On the sides towards the Wings it is covered with thick feathers. The Tail ends * sharp, being above of a chesnut-colour, underneath white. The Thighs are covered with ash-coloured feathers, [varied lightly with transverse white borders, not altogether down to the Knees.] The Legs are green: The Toes long, furnished with Claws a little crooked, broad, and plain underneath; perhaps that it may swim with them when there is need or occasion. The Female is in all parts paler than the Male.

* The Latine is *in anum*, but I suppose it is misprinted for *in acutum*.

This Bird, if it be not our *Water-Rail*, is, I confess, to me unknown. I do indeed suspect it to be the *Rail*, though, to say the truth, the marks do not agree. Wherefore I would not omit its description, that the Reader, comparing it with that of the *Rail*, may himself judge.

§. III.

Another green-footed Water-hen of Bellonius *like to a Coot, perchance our* Grinetta.

WE have neceſſarily ſeparated the *Water-hen* [*la Poulette d' eau*] from the leſſer and greater *Coot* [*de la Poule & Macroule*] becauſe it ſwims not in the water, nor is Web-footed. We have impoſed the name of *Water-hen* upon this Bird from its likeneſs, though it be much leſs; yet is it bigger than a *Rail*, ſo that it ſeems to partake of both. The Fowlers to whom we ſhewed it, ſeeing it to be like a *Coot*, would needs perſwade me that it differed only in bigneſs, being not yet come to its full age and growth. Whereupon I did more diligently ſearch out ſome diſcriminating notes: Among which this was the chief, that this *Water-hen* had green Legs and Feet, not unlike to a *Bitterns*, and not ſo plain, nor having ſuch broad appendant membranes as in a *Coot*. The Tail alſo of this *Water-hen* is longer, and the bare ſpot upon its forehead leſs. In colour it is indeed like to a *Rail*, but tending to that of a *Coot*: Wherefore at firſt ſight I took it to be a *Rail*, but viewing it more carefully, I obſerved that it had white Eye-lids, which neither *Rail* nor *Coot* have. In the Tail were two white feathers, one on each ſide. Under the Breaſt it inclined a little to blue. The Back is of a deep cheſnut colour. Some alſo are blacker than others, and have the folds of their Wings white; and moreover, another white line in the * leſſer Wing, which its firſt feathers longways of the quil or ſhaft compoſe. The ſame meat was found in its Stomach as in the *Rails* and *Coots*. It hath a Breaſt-bone and a Hip-bone different from other Birds, yea, even from the *Coot*.

Its fleſh is like that of the *Morehen*, tender, and of eaſie digeſtion: Its bones eaſie to be broken: Its Liver alſo brittle: Its Craw large: Its Guts and Entrails as in a *Coot*: When roaſted alſo it is of the ſame taſte with a *Coot*. It builds, breeds, and brings up its young like the *Rail*.

This Bird in many things reſembles our *Grinetta*, or * *Gallinula poliopus minor* of *Aldrovand*, ſo that I doubt not but it is the ſame: Howbeit, I thought fit to inſert its deſcription in this work, that I might leave the Reader to the freedom of his judgment.

* *In minore ala*, by which words and the following I do not well apprehend what our Author means.

* The leſſer grey footed Water-hen.

§. IV.

The Water-Rail, called by ſome the Bilcock or Brook-Ouzel: Rallus aquaticus * *Aldrov. i. e.* Ortygometra *Bellonii: Alſo the* Gallinula chloropus altera, *Aldrov. And perchance the* Gallinula Serica *of the ſame: So of one ſpecies he makes three.*

* *Ornithol. tom.3.p.455.*

IT is like the common *Water-hen*, but leſs; bigger than a *Quail*; of a ſlender, narrow or compreſſed body: From point of Bill to the end of the Claws ſixteen inches long, to the end of the Tail but twelve: According to our uſual way of meaſuring ſixteen inches broad.

Its Head is ſmall, narrow, or compreſſed ſideways. Its Bill, like the *Ruffs*, about two inches long, ſtreight, compreſſed likewiſe ſideways, red, eſpecially the lower Mandible, and lower part of the upper, for toward the top or point it is black, ſmooth, and hard. The Tongue reaches to the very end of the Bill, and is white and rough at the tip. It hath a round, black, bald ſpot or naked skin in the forehead, but much leſs than that of the *Coot*, ſo little that it is ſcarce obſervable. The colour of the Head, Shoulders, Back, covert-feathers of the Wings, in brief, the whole upper ſide is various of black or dark brown, and olive colour; each ſingle feather having its middle part black, and its edges olive-coloured. [Mr. *Willughby* makes the colour of the borders or edges of the feathers a yellowiſh red or ruſſet; and attributes white ſpots to the Head, which were not, or at leaſt not obſerved in the birds ſeen and deſcribed by me.] The Chin is white, the Throat red, with a mixture of aſh-colour; the extreme edges, and as it were fringes of the feathers being a little grey. The Breaſt is more blue, with a bed of white in the middle. On the Thighs and ſides under the Wings grow black feathers, elegantly variegated with tranſverſe white lines. The Belly is ruſſet, with white feathers under the Tail, like the common *Morehen*, marked with one or two black ſpots. The Wings are hollow, the quil-feathers ſhort, black, or very near it, in number twenty two. Along the *baſis* of the Wing is a line of white, as in the *Morehen*. The Tail is * ſhort and black, only the edges

* Of about two inches length.

edges of the two middle feathers are red. The Legs and Feet are of a dark fleſh-colour: The Legs ſtrong: The Toes, as in the reſt of this kind, very long, divided from the very riſe, except that the outer Toe is joyned to the middle by a membrane at the bottom. The Claws are of the ſame colour with the Toes.

It had a great, long, crooked Gall-bladder; and a large Gall-pore beſides: Long blind-guts, filled with Excrements; a muſculous Stomach, in which we found a ſhell-Snail.

It runs very ſwiftly, and hides it ſelf about the banks of Rivers: It walks rather than ſwims in the water. It flies with its feet hanging down. It is called at *Venice*, *Forzane*, or *Porzana*, a name common to other *Water-hens* alſo.

§. V.

* *The Velvet Runner:* Gallinula Serica Geſneri. *Aldrov. *Perchance the ſame with the precedent.* * Tom. 3. p. 470.

THis is a remarkable bird; very handſomly particoloured of black and red almoſt all the body over, (as far as I remember) except that the Belly is white. And becauſe the black colour in its feathers ſhines like Velvet, I thought fit to make and impoſe upon it the *German* name *Samethuhle*. Its Legs are long and dark-coloured: Its Toes very long, but the back-toe ſhort: Its Bill long. Thus far *Geſner*, and again in his *Epitome:* This Bird may be called *Gallina Serica*, becauſe in it the black colour ſhines like ſilk. *Quære* whether this be not the *Ortygometra* of *Bellonius?* And we truly hitherto have been of that opinion, but then *Geſner* hath not well deſcribed it: Which yet is not at all ſtrange, ſith (as we ſee) he deſcribed it by memory.

§. VI.

A ſmall Water-hen, called Grinetta *in Italy; and at Milan* Gillerdine: Poliopus Gallinula minor, *Aldrov.*

IT is leſs not only than the common *Water-hen*, but than the *Rail*, but in ſhape of body like. Its Legs and Feet are of the ſame, both figure and colour, with the common *Water-hens*, *viz.* a ſordid green. The Toes very long, divided to the bottom: The Bill ſhorter than either the *Rails* or common *Morehens*, compreſſed or narrow, ſharp-pointed, of a yellow colour, brighter at the head, darker toward the tip. The upper part of the upper Chap near the Head above the Noſthrils is cruſted over with a kind of yellow plaiſter. The Head, as in the reſt of this kind, is little. The colour of the feathers in the middle of the crown is darker: From the Bill above the Eyes on each ſide is drawn a line of grey or pale aſh-colour: Beneath about the Ears the feathers are of the ſame colour with the reſt of the body; under the Throat again they are aſh-coloured or blue. The Neck, both above and beneath, and all the Breaſt are particoloured, *viz.* of a middle colour between green, yellow, and dusky, elegantly ſprinkled with black ſpots. [Mr. *Willughby* makes the Breaſt white or cinereous, the bottoms of the feathers being black, the Throat black, with white ſpots, the Chin of a dark aſh-colour without ſpots.] The feathers on the crown of the head have their middle parts black, their edges red: Thoſe on the Shoulders and middle of the Back their middle parts about the ſhaft black, their ſides and tips of a ſordid red, their utmoſt edges on each ſide white.

The quil-feathers of the Wings are all of a dark brown, with a certain tincture of red: The covert-feathers red, with tranſverſe waved lines of white at intervals. The lateral parts covered by the Wings, are cloathed with brown feathers, variegated with tranſverſe waved lines of white. The Tail is ſhort, conſiſting of twelve feathers, of the ſame colour with the quils of the Wings, ſave that the middlemoſt on their lateral edges have ſomething of white. But what is eſpecially remarkable in the Tail is, that when ſpread it is not plain, as in moſt birds, but notably concave. The middle feathers are longer than the reſt. Moreover, the Wings are very hollow, as in moſt Land-fowl of the *Poultry-kind*. The Gall is large, the Stomach muſculous: In it we found ſeeds of Plants.

This ſort of *Water-hen* we firſt ſaw and deſcribed at *Milan*, then at *Florence*, where the Fowlers call it *Tordo Gelſemino*, unleſs perchance that be a diſtinct kind; and

laſtly, at *Valence* in *Spain*. That this is the *Gallinula poliopus* of *Aldrovand* the names impoſed on it do perſwade us, though the deſcriptions do not in all points agree.

The Bird that I deſcribed at *Florence* was of the bigneſs of the leſſer *Tringa*, long-bodied, with a ſmall Head, Wings of a mean ſize, a ſhort Tail, Legs bare for a little above the knees, very long Toes except the back one, which is ſhorter in proportion than the reſt, and ſituate higher. The Bill, for the bigneſs of the bird, is of a good length, ſtreight, narrow, or compreſſed ſideways; of a greeniſh yellow colour: But the upper Mandible both at the baſe and toward the tip is darker coloured, and as it were of a dusky green. The Legs and Feet are of a ſordid green, neither is the colour of the Claws different. In the colour of the feathers it agrees moſtwhat with the deſcribed, ſave that in the middle of the Back between the Wings a black liſt runs down beſprinkled with white ſpots, of a conſiderable length and breadth: to which alſo are two lines adjacent, one on each ſide, in the covert-feathers of the Wings, not parallel to the middle one, but running out wider toward the Tail. The Eyes are ſmall, and their *Irides* of a greeniſh yellow. In the bird that Mr. *Willughby* meaſured the length from Bill to Claws was thirteen inches, from Bill to Tail nine and an half: The breadth between the tips of the Wings ſixteen. The Bill, like that of the common *Water-hen*, from the point to the angles of the mouth ſcarce an inch long: The Tail two inches. Along the utmoſt edge of the Wing from the Shoulders to the very tip of the outmoſt pinion feather runs a line of white, as in the common *Water-hen*. This line of white was not in the Bird we deſcribed at *Florence*: Yet I perſwade my ſelf that both theſe deſcriptions are of one and the ſame *Species* of bird, differing either in Age or Sex.

§. VII.

* *The Water-hen called by Geſner* Ochropus: Schmirring, *Aldrov.* lib. 20. cap. 42.

SO he denominates it from the pale yellow or Brimſtone-like colour of its Legs, (which appears alſo in its Bill to the middle part or further, for the forepart of it is black.) It is called in High Dutch *Schmirring*, a name (as I gueſs) framed in imitation of its voice or the noiſe it makes. It hath the greateſt variety of colours of any bird of this kind; there appearing in it ſeven diſtinct ones (as the * Picture ſhews.) For beſides the yellow colour I ſpake of, every where all over the whole body appears a ruſſet, [*ruffus:*] In the ends of the ſhorteſt feathers of the Wings a red, like red Oker: A white both on the Head and about the Eyes, and alſo in the middle feathers of the Wings, and in the Belly. The longeſt feathers of the Wings are black, and elſewhere in the Back, Tail, Neck, and Wings are ſpots of black. The edges of the Eye-lids are tinctured with a Saffron-colour. There is alſo ſomething of brown and cinereous in the Wings. The Feet want the back-toe, unleſs the Picture deceives me. It builds among ſhrubs with moſs and graſs. Thus far *Geſner*. This Bird (if it be rightly deſcribed, of which we are very doubtful) we have not yet ſeen.

* I wiſh *Geſner* had ſeen the bird from which the Picture was taken, we ſhould have had a better and truer deſcription of it.

§. VIII.

* *The* Wyn-kernel *or* Gallinula ochra *of Geſner, Aldrov.* lib. 20. cap. 48.

I (ſaith *Geſner*) named this *Ochra*, from the greeniſh, but ſordid and dark colour of almoſt the whole body, more dusky on the upper ſide. The Head, Neck, Breaſt, and Wings are adorned with points and ſpots of white. The Tail is in part white. The Bill partly purple, partly black. The Legs pale yellow.

§. IX.

* *The Land-hen:* Gallinula terreſtris *of Aldrovand. Perchance the Land-Rail.*

WE ſuſpect this Bird (however *Geſner* contradicts it) to be the *Land-Rail* or *Ortygometra* of *Bellonius*, however the Toes in the figure are drawn too too long. But that the Reader may ſatisfie himſelf whether or no we judge aright, we ſhall here put down *Geſners* deſcription of it.

In the whole habit and faſhion of its body it is very like the Water-fowl, if you except only the Bill. *Geſner* having no *Greek* or *Latine* name for it, it may, ſaith he, be

be called * *Trochilus terreſtris*; (for there are alſo other *Water-Trochili*, likewiſe of the Hen-kind) ſith it is of the ſame † common kind, and runs ſwiftly, whence the *Grecians* gave it that name; howbeit ſome do call that very ſmall bird the *Regulus* alſo by the name of *Trochilus*. This Bird runs very ſwiftly through ſhrubs, and ſometimes leaps ſideways. It flies ill, and with great difficulty raiſes it ſelf from the ground up into the Air. *So he.* And in his *Epitomy* again he names it, the *Land-Trochilus* or *Land-Rail*, to difference it from that which lives about Waters, and adds, that *Belloniu*s his *Land-Rail* is another bird. About the *Lago maggiore* (ſo he goes on) ſome call it *Polle*, which is as much as a Pullet or Hen, by a name too general. The *German* Fowlers call it, *Eggenſchar*, *Heggeſchar*, and *Hegeſar*, becauſe they run in companies near hedges, where they are found after Hay-harveſt. For the *Germans* call a hedge *Hegga*, or *Haga*, and a flock or troup *Schara:* Or perchance becauſe they dig the earth about hedges, for the word *Scharren* with us ſignifies to dig or ſcrape with the feet, as Hens are wont: Which whether or no theſe birds do is to me uncertain. There are ſome who call it periphraſtically, *Ein groſſe waſſer Hunle*, that is, *a great Water-hen. This Bird he thus briefly deſcribes.* It is thick and ſhort-bodied, and ſhaped otherwiſe like its Picture, [of which he there gives a draught,] ſcarce any bird hath longer Toes for its bigneſs. The hind-toe alſo is about half as long as the fore ones. The colours I do not well remember, but I think their Legs were greeniſh. The Back and Wings from a reddiſh colour inclined to brown. Its note (as they ſay) is harſh, *Ger, ger, ger*, ſomething like a Serpents. And therefore it is alſo taken by Fowlers imitating its voice by a knife drawn through dry wood. But whereas he ſaith, that the *Engliſh*, accounting it a very delicate bird, uſe ſeveral ſnares and devices to catch it among the ſtanding corn, he was certainly deceived by a falſe relation; for that *England* neither breeds nor feeds any ſuch bird beſides the *Land* and *Water-Rail.*

* *i.e.* The Land Runner.
† *Genus.*

§. X.

The Braſilian Water-hen, called Jacana.

THis moſt elegant Bird is of the bigneſs of a *Dove*, but hath much longer Legs, of a yellow colour mixt with green. The lower Legs are more than two inches long; the upper (for the greateſt part bare, as in Water-birds) a little leſs. It hath four Toes in each foot, the middle of thoſe three which ſtand forward two inches long, the other two a little ſhorter; the fourth or back-toe a foot or more long; all armed with yellow Claws, half an inch long. Its Tail is ſhort like a *Water-hens.* The feathers on the Back, Wings, and Belly are mingled of green and black: Thoſe under the Tail white: Thoſe near the Neck, and on the whole Neck and Breaſt of the ſame colour with the feathers that are ſeen on the Necks of *Peacocks* and ſome *Pigeons.* It hath a ſmall Head like a *Water-hen*, covered with a certain round membranous tegument, of the colour of a *Turcois* ſtone. Its Bill is ſtreight, like a *Hens.* above an inch long, from the beginning to the middle of a rare * ſcarlet colour, the remaining part being of an excellent yellow, wherewith ſomething of green is mixt. It is very frequent every where in the fenny places or Mariſh grounds of *Braſil.* Its fleſh is edible, but not much valued.

Out of *Marg. grave.*

* Or red-lead colour.

§. XI.

The Braſilian Water-hen, called Aguapecaca.

IT is in bigneſs equal, and in ſhape like to the precedent, but different and inferiour to it in colour. Its feathers on the Back are like thoſe of the former; the Wings browner. It wants the Cap or Miter on the Head, and hath in each Wing on the inſide a ſtreight horn or ſpur, wherewith it defends it ſelf.

§. XII.

§. XII.

The third Braſilian Water-hen of Marggrave.

IT is for figure and bigneſs like and equal to the precedent, but different in colour. The whole Head, Neck, Back, and Tail are black, the beginning of the Wings brown: The remaining part green; the ends of the quil-feathers brown: Moreover, the Breaſt and lower Belly are of a brown colour, as alſo the upper half of the upper Legs. The Bill is ſtreight, of a Saffron-colour, with a red skin at its riſe, and on the fore-part of the Head. The Legs are bare, the Feet aſh-coloured. In the fore-part of each Wing it hath the like horn or ſpur as the former, of a yellow colour.

* The horned bird.

This is the * *Avis cornuta* of *Nierembergius*, or rather *Hernandez*, which the *Indians* (ſaith he) call *Tohualcuachili*, or *Caput nocturnum*.

§. XIII.

The fourth Braſilian Water-hen of Marggrave.

IT is of the ſame figure or ſhape with the reſt. Its Bill is yellow. It hath a red skinny Miter or Cap on its forehead near the riſe of its Bill: It hath alſo proceſſes extended down the ſides after the manner of the * *Guiny Hens*. Its whole Head, Neck, Breaſt, and lower Belly are covered with black feathers. The Back, Tail, and beginning of the Wings with red, or light brown. The quil-feathers of the Wings are of a Sea-green, with black tips; but they are covered with thoſe red [or ruſſet] ones forementioned, and cannot be ſeen unleſs when the bird flies. Its Legs are long; its Toes alſo long: Each hath * four joynts, of an aſh-colour. Each Wing in the fore-part hath a very ſharp horn [or ſpur] of a Saffron colour.

* *Gallinæ Numidicæ*, perchance he may mean *Turkeys*.

* I ſuppoſe he was herein miſtaken, for no bird we ever ſaw hath an equal number of joynts in every toe ſave the *Swift*.

§. XIV.

A Water-hen, called by the Braſilians, Tamatia.

IT hath the Bill of a *Sparrow-hawk*, is of the bigneſs of *Taſſana aſu*, walking with a crooked Back, and crooked Neck. It hath a great Head, great, black Eyes, ſituate near the riſe of the Bill: A Bill two inches long, more than one broad, like a Ducks indeed, but * ſharp toward the tip: Its upper part black, its nether yellowiſh. The upper Legs are bare of feathers, and of a good length. It hath in each foot four Toes, three ſtanding forward, one backward, long, as in *Water-hens*. The Legs and Toes are of a yellowiſh green colour. The Tail very ſhort, not longer than in the *Taſſana*. Its Head is covered with black feathers, the reſt of its body with brown: But in the Belly ſome white feathers are intermingled.

* The Latine words are *anteriùs acuminatum*.

Chap. III. §. I.

* *Of the* Porphyrio, *or purple Water-hen.*

THis Bird neither *Geſner*, nor *Aldrovandus*, nor we truly have hitherto ſeen, but Pictures of it only. It is (if the Pictures deceive us not) of the *Water-hen* kind. Its body is all over of a blue colour. The extreme half of the Tail is a whitiſh aſh-colour: The Bill and Legs of a ſhining purple. So *Geſner* deſcribes it by a Picture ſent him from *Montpellier*. *Aldrovandus* deſcribes it otherwiſe, as may be ſeen in *Book* 20. *Chap.* 28. of his *Ornithology*. Seeing therefore the Pictures of this Bird do ſo much vary, and none of thoſe who have compiled Hiſtories of Animals do profeſs themſelves to have ſeen the *Porphyrio*, we did ſometimes doubt, whether there were any ſuch bird in nature, eſpecially ſeeing ſome of thoſe things which the Ancients attribute to it, as for example, that it hath five Toes in each foot, are without doubt falſe and fabulous. But becauſe all the Pictures of it do agree in the figure of its Bill, Legs and Feet, and indeed the whole body, we have now changed our minds, and are more apt to believe the affirmative, *viz.* that there is ſuch a

Porphyrio

Porphyrio as they picture, akin to the *Coots* or *Water-hens*. Let others, who have the hap to see it, describe it more exactly, and so remove all doubt and scruple concerning this matter out of the minds of the learned and curious.

§. II.

* *The* Quachilto *or American* Porphyrio *of Nieremberg.*

THe *Quachilto* doth imitate the watching and crowings of a *Cock*. Some call it *Yacacintli*. Late at night, and early in the morning it crows after the manner of *Cocks*. It is of a dark purple colour, with some white feathers intermixt. The Bill is pale at the beginning. In the young birds the bald part at the rise of the Bill is red. It is like a *Coot*. Its Legs are yellow, inclining to green, ending in four pale-coloured Toes, without any membrane. The Eyes are black, with a fulvous *Iris* [or circle about the Pupil.] It is a Marsh-bird, feeding upon fishes, it self being no unpleasant or ill-tasted meat.

Chap. IV.

* *Aldrovands Italian Rail.* * *Ornithol.* book 19. chap. 16.

THis *Rail* (as *Gesner* describes it) is more a Water than a Land Fowl: And at *Mestre*, a Village not far distant from *Venice*, it is taken, not without great toil and expence, *viz.* in *Falcons*, or other Hawks, and a troup of Servants, who wearing Buskins or high-shoos, do, in the room of hunting Dogs, wade up and down the shallow waters thereabouts, and put up those Birds with certain Clubs they carry, shaking and beating the shrubs and bushes where they lie; that so they may afterwards become a prey to the *Falcons* that wait for them. This is a very noted Bird in that City, but in my judgment much inferiour for taste both to a *Thrush* and a *Quail*. *Aloysius Mundella*, principal Physician at *Brescia*, in his Letters to me, writes thus. This Bird differs from our * *Fulica*, in that it hath more white in the Wings, and about the Eyes. Its Bill is black; its Legs greenish. It hath no such dissected or scalloped membranes between the Toes, no baldness on the Head, as far as I gather from the Picture. * *Coot.*

What Bird this is, and whether we have ever seen it, being so briefly described with a few, and some of those negative notes, we cannot certainly determine.

Memb. II.

Cloven-footed, fin-toed Birds, of kin to the Waterhens.

§. I.

The Coot: Fulica.

IT weighs twenty four ounces: From Bill-point to Tail-end is sixteen inches long; to the Claws twenty two. The Bill is an inch and half long, white, with a light tincture of blue, sharp-pointed, a little compressed or narrow; both Mandibles equal. The feet bluish, or of a dusky green: The back-toe little, with one only membrane adhering, and that not scallop'd, but extending all the length of the Toe. The inner fore-toe is a little shorter than the outer: All the Toes longer than in whole-footed birds. About the joynts of the Toes are semicircular membranes appendant, on the inner Toe two, the middle three, the outer four. These circular membranes are bigger, and more distinct on the inside of the Toes, so that the intermediate incisures or nicks reach to the very joynts. [This may be thus briefly expressed, The three fore-toes have lateral membranes on each side, scalloped, the inner with two, the middle Toe with three, and the outer with four scallops.] From the Bill almost to the crown of the Head arises an Excrescency or Lobe of flesh, bare of feathers,

* *Calvities.* feathers, ſoft, ſmooth, round, which they call the * baldneſs. The feathers about the Head and Neck are low, ſoft, and thick. The colour all over the body black, deeper about the Head. The Breaſt and Belly are of a lead-colour. The Thighs covered with feathers almoſt down to the knees: Juſt beneath the feathers is a ring of yellow about the Leg. The firſt ten quil-feathers are of a dark, dusky, or black colour, the eight next lighter, with white tips; the laſt or next the body are of a deeper black. The Tail conſiſts of twelve feathers, and is two inches long.

The Liver is great, divided into two Lobes, having alſo a large Gall. The blind guts are nine inches long, their ends for an inches ſpace being reflected or doubled backwards. It builds its Neſt of graſs, broken reeds, *&c.* floating on the top of the water, ſo that it riſes and falls together with the Water. The Reed, among which it is built: ſtop it that it be not carried down ſtreams. This Bird in the figure and make of its body reſembles a *Water-hen*, to which *genus* it ought without all doubt to be referred. It ſeldom ſits upon trees. The fleſh of it with us is accounted no good meat: In *Italy* it is more eſteemed.

§. II.

* *Bellonius his greater Coot, called by the French* Macroule, *or* Diable de mer.

IT always dives in freſh waters, and is of a colour ſo exquiſitely black, as if it were laid on with a Pencil. The white bald ſpot on the Head is broader than in the common *Coot:* And it is ſomewhat bigger-bodied. It draws up its Legs, and hath broad Toes, divided from each other, like the common *Coot.*

SECTION II.

Whole-footed long-leg'd Birds.

Chap. I.

* *The Flammant or Phœnicopter:* Phœnicopterus.

IT hath extraordinary long Neck and Legs. The Bill is broad, of ſingular, ſtrange, unuſual figure. For the upper Mandible is flat and broad, crooked, and toothed: The lower thicker than it: The tip of the Bill black, elſe it is of a dark blue.

The Neck and body are white: The quil-feathers of the Wings black: The covert-feathers are wholly died with a moſt beautiful bright purple or flame-colour, whence it took the names *Phœnicopter* and *Flammant.*

It is whole-footed (as *Geſner* rightly hath it) from whom *Aldrovandus*, deceived (I gueſs) by the Picture of it diſſenting, affirms the contrary, *viz.* that it is cloven-footed.

In Winter-time in hard weather it comes over to the Coaſt of *Provence* and *Languedoc* in *France*, and is often taken about *Martiguez* in *Provence*, and *Montpellier* in *Languedoc.* We ſaw ſeveral caſes of it dried at *Montpellier.*

The *French* call it *Flambant* or *Flammant*, rather from the flammeous colour of its Wings and Feet, than becauſe it comes from *Flanders* in the Winter-time to the Coaſts of *Languedoc.* For I believe there was ſcarce ever ſeen about *Flanders* a bird of this kind, ſo far are they from being common there, and flying from thence into other Countries. Howbeit, the *Provencals* might perchance through miſtake think ſo. Whence it comes, or where it breeds, is to me unknown.

It feeds upon *Periwinkles* and fiſhes. The Ancients reckon the *Phœnicopters* Tongue among the choiceſt dainties. *Apitius*, the moſt profound gulph of gluttony and riot, (as *Pliny* relates) wrote, that a *Phœnicopters* Tongue is of an excellent taſte and relliſh.

Chap.

Chap. II.

* *The* Trochilus, *commonly called,* Corrira, * *Aldrov.*

* Lib. 19. cap. 65.

This Bird hath long Legs, yea, the longeſt of any whole-footed † Fowl except the *Avoſetta:* Wherefore becauſe it runs very ſwiftly they call it *Corrira* [Courier] whence I conjecture it to be the *Trochilus*, which, as they write, runs along the ſhores with that celerity many times, that its running is ſwifter than its flying. It is a particoloured Bird, hath a ſtreight yellow Bill, black at the tip: A wide ſlit of the mouth; black Eyes, compaſſed about with a white circle, which is environed by another ſpadiceous one. Underneath on the Belly it is white. Two white feathers, which yet have black tips, cover the Tail. The upper ſide, Head, Neck, Back, and Wings are moſtly of a ferrugineous colour. It hath (as I ſaid) long Legs, ſhort Thighs, Toes joyned together by membranes. Having not ſeen this Bird we have no more to add concerning it. Its figure ſomewhat reſembles a *Larus*. *Aldrovandus* is miſtaken in that he writes his *Trochilus* hath the longeſt Legs of any whole-footed bird but the *Avoſetta:* For the *Phœnicopter* hath much longer Legs than the *Avoſetta* it ſelf. But *Aldrovandus* is herein to be excuſed, for that he held the *Phœnicopter* to be a cloven-footed bird.

† Here he is miſtaken, for the *Flammant* hath longer.

Chap. III.

The Avoſetta *of the Italians*: Recurviroſtra.

In bigneſs it ſomewhat exceeds a *Lapwing*, weighing ten ounces and an half; being extended in length from the tip of the Bill to the end of the Toes twenty three inches and an half; to the end of the Tail but eighteen: In breadth, taken between the tips of the Wings ſpread, it is full thirty one inches. The Bill is three inches and an half long, ſlender, black, flat or depreſſed, reflected upwards, which is peculiar to this Bird, ending in a very thin, ſlender, weak point. The Tongue is ſhort, not cloven. The Head is of a mean ſize, round, like a ball or bullet, black above, (ſave that the fore part of the Head is ſometimes grey) which colour alſo takes up the upper ſide of the Neck extending to the middle of it. The colour of the whole under ſide of the body is a pure ſnow-white; of the upper ſide partly white, partly black, *viz.* the outmoſt quil-feathers of the Wings are above half way black, the reſt white, as are alſo the feathers of the ſecond row. The reſt of the covert-feathers almoſt to the ridge of the Wing are black, which make a broad bed of black, not directly croſs the Wing, but a little oblique. On the Back again it hath two black ſtrakes, beginning from the point of the Shoulder or ſetting on of the Wing, and proceeding tranſverſly till in the middle of the Back they do almoſt meet, being thence produced ſtreight on to the Tail. The whole Tail is white, three inches and an half long, made up of twelve feathers. The Legs are very long, of a lovely blue colour, bare of feathers for almoſt three inches above the Knees. The Claws black and little. It hath a back-toe, but a very ſmall one. The blind guts are ſlender, almoſt three inches long. The whole length of the Guts is three foot. It hath a Gall-bladder, emptying it ſelf into the Gut by its own proper duct or channel, and a Gall-pore beſides. The Stomach is ſmall, in which diſſected we found nothing but little ſtones, ſo that thence we could not learn on what it feeds. Indeed, the Bill being ſo ſlender, weak, long, and of ſo inconvenient a figure, turning upwards, one would wonder how it could gather its food, be it what it will.

Mr. *Willughby* deſcribes the Wings thus. The interiour ſcapular feathers are black, which make a long black ſpot in the middle of the Back. The covert-feathers of the upper part of the Wing, from the ſetting on thereof to the firſt joynt, are white; from the firſt to the ſecond joynt the leſſer covert-feathers are black; from the ſecond joynt to the roots of the greater quil-feathers white again. The firſt quill or pinion feather is wholly black, the ſucceeding have by degrees leſs and leſs black, till in the eight only the exteriour tip remains black.

We saw many of these birds both at *Rome* and *Venice*: They do also frequent our Eastern Coasts in *Suffolk* and *Norfolk* in Winter time. But there needs no great pains be taken or time spent in exactly describing this bird: For the singular figure of its Bill reflected upwards is sufficient alone to characterise and distinguish it from all other birds we have hitherto seen or heard of.

Book III. Part III.

Of Whole-footed Birds *with shorter Legs.*

* Or such as have but three toes, and such as have four.

Whole-footed birds with shorter Legs we distinguish into *such as want the back-toe, and such as have it: These latter into such as have all four toes web'd together, and such as have the back-toe loose or separate from the rest: These latter again we subdivide into narrow-bill'd and broad-bill'd: The narrow-bill'd have their Bills either hooked at the end, or streighter and sharp-pointed. The hook-bill'd have their Bills either even, or toothed on the sides. Those that have streighter and sharp-pointed Bills are either short-winged and divers, called *Douckers* and *Loons*; or long-winged, and much upon the Wing, called *Gulls*. The broad-bill'd are divided into the *Goose*-kind, and the *Duck*-kind. The *Duck*-kind are either *Sea-ducks*, or *Pond-ducks*.

The general marks of whole-footed birds are, 1. Short Legs; Here we must except the *Phœnicoptter*, *Corrira*, and *Avosetta*: 2. Legs feathered down to the Knees: 3. Short hind-toes: 4. The outmost fore-toe shorter than the inmost: 5. Their Rumps less erect, than other birds: 6. Most of the broad-bill'd kind have a kind of hooked narrow plate at the end of the upper Chap of their Bills; their bodies flat or depressed.

N. B. Under the name of *whole* or *web-footed* we comprise some birds, which have indeed their Toes divided, but membranes appendant on each side, such are some of the Divers or *Loons*. These might more properly be denominated *fin-toed* or *fin-footed* than *whole-footed*.

Section I.

Whole-footed Birds that want the Back-toe.

Chap. I.

The Bird called Penguin by our Seamen, which seems to be Hoiers Goisugel.

In bigness it comes near to a tame *Goose*. The colour of the upper side is black, of the under white. Its Wings are very small, and seem to be altogether unfit for flight. Its Bill is like the *Auks*, but longer and broader, compressed sideways, graven in with seven or eight furrows in the upper mandible, with ten in the lower. The lower Mandible also bunches out into an angle downward, like a *Gulls* Bill. It differs from the *Auks* Bill in that it hath no white lines. From the Bill to the Eyes on each side is extended a line or spot of white. It wants the back-toe, and hath a very short tail.

I saw and described it dried in the Repository of the *Royal Society*. I saw it also in *Tradescants* Cabinet at *Lambeth* near *London*.

The Penguin *of the Hollanders, or Magellanic Goose of Clusius.*

The Birds of this kind, found in the Islands of the strait of *Magellane*, the *Hollanders* from their fatness called *Penguins*. I find in Mr. *Terries* Voyage to the *East Indies* mention made of this Bird. He describes it to be a great lazy bird, with a white

white Head, and coal-black body. Now seeing *Penguin* in the *Welsh* Tongue signifies a *white head*, I rather think the Bird was so called from its white head; though I confess that our *Penguin* hath not a white Head, but only some white about the Eyes.] This (saith *Clusius*) is a Sea-fowl of the *Goose*-kind, though unlike in its Bill. It lives in the Sea; is very fat, and of the bigness of a large *Goose*, for the old ones in this kind are found to weigh thirteen, fourteen, yea, sometimes sixteen pounds; the younger eight, ten, and twelve. The upper side of the body is covered with black feathers, the under side with white. The Neck (which in some is short and thick) hath as it were a ring or collar of white feathers. Their skin is thick like a *Swines*. They want Wings, but instead thereof they have two small skinny fins, hanging down by their sides like two little arms, covered on the upper side with short, narrow, stiff feathers, thick-set; on the under side with lesser and stiffer, and those white, wherewith in some places there are black ones intermixt; altogether unfit for flight, but such as by their help the birds swim swiftly. I understood that they abide for the most part in the water, and go to land only in breeding time, and for the most part lie three or four in one hole. They have a Bill bigger than a *Ravens*, but not so *high; and a very short Tail; black, flat Feet, of the form of *Geese*-feet, but not so broad. They walk erect, with their heads on high, their fin-like Wings hanging down by their sides like arms, so that to them who see them afar off they appear like so many diminutive men or *Pigmies*. I find in the Diaries [or Journals of that Voyage] that they feed only upon fish, yet is not their flesh of any ungrateful relish, nor doth it taste of fish. They dig deep holes in the shore like Conyburroughs, making all the ground sometimes so hollow, that the Seamen walking over it would often sink up to the knees in those vaults. These perchance are those *Geese*, which *Gomora* saith are without feathers, never come out of the Sea, and instead of feathers are covered with long hair. Thus far *Clusius*, whose description agrees well enough to our *Penguin*; but his figure is false in that it is drawn with four toes in each foot.

* Elated.

Olaus Wormius * treating of this bird, to *Clusius* his description adds of his own observation as followeth. This Bird was brought me from the *Ferroyer* Islands; I kept it alive for some months at my house. It was a young one, for it had not arrived to that bigness as to exceed a common *Goose*. It would swallow an entire *Herring* at once, and sometimes three successively before it was satisfied. The feathers on its back were so soft and even that they resembled black Velvet. Its Belly was of a pure white. Above the Eyes it had a round white spot, of the bigness of a Dollar, that you would have sworn it were a pair of Spectacles, (which *Clusius* observed not) neither were its Wings of that figure he expresses; but a little broader, with a border of white.

* *Musei*, lib. 3. cap. 19.

Whether it hath or wants the back-toe neither *Clusius* nor *Wormius* in their descriptions make any mention. In *Wormius* his figure there are no back-toes drawn.

This Bird exceeding the rest of this kind in bigness justly challenges the first place among them.

CHAP. II.

The Bird called the Razor-bill *in the West of* England, *the* Auk *in the North, the* Murre *in* Cornwal: Alka Hoieri in Epist. ad Clusium. Worm. mus.

THis is less by half than the *Penguin*, being not so big as a tame Duck: Between the tips of the Wings spread it was twenty seven inches broad. Its Head, Neck, Back, and Tail, in general its whole upper side is black. Its Belly and Brest as far as the middle of the Throat white. The upper part of the Throat under the Chin hath something of a dusky or purplish black. Each Wing hath twenty eight quil-feathers; the tips of all * to the eleventh are white. The Tail is three inches long, consisting of twelve feathers, the exteriour shorter by degrees than the interiour: The exceſs of the two middlemost above the next them is greater than that of the rest.

* But the eleven outmost.

The Bill from the tip to the angles of the mouth is two inches long, of a deep black, narrow or compressed sideways. A little beyond the Nostrils in the upper Mandible there is engraven a furrow or incision deeper than that in the *Coulter-neb*. As far as

this groove the Bill is covered with a thick, ſhort, ſoft down, like the nap of *Velvet*, The upper Chap is crooked at the end, concave and overhangs the lower: Both are of equal length, channelled with two tranſverſe furrows or grooves [the upper for the moſt part with three,] that next the Head, which is the wideſt, and almoſt croſſes the whole Bill, being white. In theſe furrows there is ſome diverſity in ſeveral birds, for ſome have more than two: Yet are the white lines like and equal in all. Beſides from each Eye to the corner of the upper Mandible is a narrow white line drawn. The Mouth within is of a lovely yellow: The Eyes hazel-coloured. The Legs are ſituate as in the *Penguin* and *Coulterneb*, of a black colour, as are alſo the Feet and Claws. It wants the back-toe.

It lays, ſits, and breeds up its Young on the ledges of the craggy Cliffs and ſteep Rocks by the Sea-ſhores, that are broken and divided into many as it were ſtairs or ſhelves, together with the *Coulternebs* and *Guillemots*. The *Manks* men are wont to compare theſe Rocks, with the Birds ſitting upon them in breeding time to an Apothecaries ſhop, the ledges of the Rocks reſembling the ſhelves, and the Birds the pots. About the Iſle of *Man* are very high Cliffs, broken in this manner into many ledges one above another from top to bottom. They are wont to let down men by ropes from the tops of the Cliffs to take away the Eggs and young ones. They take alſo the birds themſelves when they are ſitting upon their Eggs, with ſnares faſtened to the tops of long poles, and ſo put about their Necks. They build no Neſts, but lay their Eggs upon the bare Rocks. They fetch many circuits in getting up to their Neſts, and if they have not aimed right, and ſo miſs of them, they drop down into the Sea, and aſcend up again by degrees.

All the birds of this kind that we know lay extraordinary great Eggs in proportion to their bodies: This birds are two inches three quarters long, the leſſer ends not ſo ſharp as in the *Guillemots*, white, varied with black ſpots, as *Hoierus* rightly deſcribes them. They feed altogether upon fiſh.

Chap. III.

* Tom. 3. pag. 240.

* *The* Mergus *of Bellonius*, * *Aldrov. Perchance the ſame with the precedent.*

* The *Coot*.

Bellonius, in his Book of *Obſervations* writes, that there is a peculiar ſort of *Sea-diver* in *Candy*, differing from the * *Phalacro-corax*, and other divers, which he thinks to be the *Æthyia* of *Ariſtotle*. The Inhabitants of the *Candy*-ſhores (ſaith he) call it *Utamania*. It is of the bigneſs of a *Teal* [*d'une Sarcelle*] hath a white Belly, a black Head and Back, as alſo Wings and Tail. This alone among whole-footed birds wants the back-toe. [Herein *Bellonius* is miſtaken.] Its feathers are like down, ſticking faſt in the skin. Its Bill hath ſharp edges, is hollow, and almoſt plain, for a good part of it covered with downy feathers; the upper Chap being black, the lower white: the crown of its Head is broad.

This bird in many things reſembles the *Auk*, and perchance it may be the ſame, for its figure is not unlike: But if it be indeed, as it is deſcribed, no bigger than a *Teal*, and the lower Mandible of its Bill be white, it muſt be different.

Chap. IV.

The Bird called by the Welſh and Manks-men, a Guillem; *by thoſe of Northumberland and Durham, a* Guillemot, *or Sea-hen; in Yorkshire about Scarburgh, a* * Skout; *by the Corniſh, a* Kiddaw: Lomwia Hoieri in Epiſt. ad Cluſium.

* It is another Bird which the *Scots* about the *Baſs* Iſland, and the *Northumbers* about the *Farn* Iſlands call a *Skout*, *viz.* the *Alka* of *Hoier*.

IT is like the *Auk*, but greater, coming near to the bigneſs of a *Duck*: In length from Bill to Tail eighteen inches and an half; in breadth the Wings being ſpread out thirty. Its Head, upper-ſide of the Neck, Back, Wings, and Tail, and beſide, the Chin alſo as far as the middle of the Throat are of a dark brown, or black aſh-colour: Its Belly, Breaſt, and the reſt of its Throat are white, as in the *Auk*. The tips

tips of the eleven foremoſt or outmoſt Wing-feathers of the firſt row are white, as in the *Auk*. The Tail is two inches long, conſiſting of twelve feathers, the middlemoſt the longeſt, the reſt by degrees ſhorter and ſhorter to the outmoſt.

The Bill is ſtreight, ſharp-pointed, black, from the tip to the angles of the mouth, almoſt three inches long, round. The upper Chap near the point hath on each ſide a ſmall angular proceſs or tooth which is not received in the lower, but overhangs it on both ſides when the mouth is ſhut. The Tongue undivided: The mouth within yellow. The Feet ſituate very backward near the Tail, as in the precedent, of a black colour, as are alſo the Claws. It wants the back-toe.

The skin of the ſtomach within is yellow: The Gall-bladder large: The Teſticles in the Males great, from which the ſeminal veſſel with various winding and reflections tend to the vent.

It lives and companies together with the *Auks* and *Coulternebs*: Breeding after the ſame manner, and in the ſame places: But it is a ſimpler bird, and more eaſily taken.

It breeds yearly on the ſteep Cliffs and inacceſſible Rocks of the Iſle of *Man*, as do the *Auks*, &c. Likewiſe on an Iſland or Rock called *Godreve*, not far from St. *Ives* in *Cornwal*: Alſo on *Preſtholm* Iſland, about a League diſtant from *Beaumaris* in the Iſle of *Angleſey*, where for want of freſh water no body at preſent dwels, nor are there any buildings remaining, ſave an old ruinous Chappel dedicated to St. *Sirician*. My Lord *Bulkley* is proprietor of this Iſland. Moreover, this Bird frequents and builds on the *Farn* Iſlands near the coaſt of *Northumberland*; and the Cliffs about *Scarburgh* in *Yorkſhire*, in the Summer-months.

This lays the biggeſt Eggs of all this kind, more than three inches long, very ſharp at one end, and blunt at the other, of a bluiſh green colour, ſome varied with black ſpots or ſtrokes, ſome without any.

Mr. *Johnſon* hath obſerved theſe birds to vary ſomewhat in colour, ſome having black backs, ſome brown or bay: Perchance theſe may be Hens, thoſe Cocks.

Chap. V.

The Bird called Coulterneb *at the Farn Iſlands*, Puffin *in North-Wales*, *in South-Wales* Gulden-head, Bottle-noſe, *and* Helegug, *at Scarburgh* Mullet, *in Cornwal* Pope, *at Jerſey and Guernſey* Barbalot: Anas Arctica *Cluſ.* Pica marina vel Fratercula Geſneri * Aldrov.

* Tom. 3. pag. 215.

This is leſſer than the tame *Duck*, extended in length from Bill to Feet twelve Inches. Its Bill is ſhort, broad, and compreſſed ſide-ways, contrarily to the Bills of *Ducks*, of a triangular figure, and ending in a ſharp point, the upper Mandible arcuate, and crooked at the point. Where it is joyned to the Head a certain callous ſubſtance encompaſſes its baſe, as in *Parrots*. Between this callous body and the firſt furrow, anon to be deſcribed, are long holes for the Noſthrils produced by the aperture of the mouth. The Bill is of two colours, near the Head * cinereous or livid, toward the point red; it hath three furrows or grooves impreſſed in it, one in the livid part, two in the red. The Mouth is yellow within. The Eyes grey or aſh-coloured. The Eye-lids are ſtrengthened with a black cartilage: in the lower is a carneous protuberance of a * livid colour, in the upper a ſmall triangular excreſcency of the ſame colour.

† Aſh-coloured.

* Black and blue, the colour in the skin after a ſtroke or contuſion.

The Feet of ſome are yellow; I ſuppoſe thoſe are young ones, of others red, ſituate backwards almoſt in the ſame plain with the Belly, as they are in *Doukers* or *Loons*, ſo that the Bird ſtands and walks almoſt perpendicularly erected upon the Tail. It wants the back-toe. The inmoſt of the fore-toes is the ſhorteſt, the middlemoſt the longeſt. The Claws are of a dark blue, inclining to black. The top of the Head, the Neck, and Back are black: The Breaſt and Belly white. A ring or muffler of black produced from the Neck encompaſſes the Throat. The ſides of the Head from the crown, to the now mentioned muffler are white, or of a very pale aſh-colour, ſo that the Eyes and Ears are included in theſe white ſpaces.

Their Wings are ſmall, made up of ſhort feathers, nevertheleſs near the ſuperficies of the water they fly very ſwiftly. They ſay that out of the ſight of the Sea they cannot

cannot fly at all, nor unleſs they do ever and anon dip their Wings in the water. The Tail is two inches long, made up of twelve feathers, all black. The Stomach within is yellow: The Liver divided into two Lobes, with a Gall annexed.

They build no Neſt, but lay their Eggs upon the bare ground. They breed in holes under ground, which either they dig for themſelves, or borrow of the Rabbets, whom they drive out and diſpoſſeſs of their burrows. They lay but one Egg apiece (which is eſpecially remarkable) but if you take away the Egg out of any Neſt, that Bird will lay a ſecond; if you remove that, a third, and ſo on to the fifth. It lays huge Eggs for its bigneſs, even bigger than *Hens* or *Ducks*, of a reddiſh or ſandy colour, much ſharper at one end than *Hens* Eggs, and blunter at the other.

In the Iſlands of *Man*, *Bardſey*, *Caldey*, *Farn*, *Godreve*, *Sillies*, and other ſmall deſert Iſlets near the Sea-ſhore they breed yearly in great numbers: And not only in Iſlands, but alſo on Rocks and Cliffs by the Sea-ſide, about *Scarborough*, *Tenby*, and elſewhere.

In the Summer time they abide in the places mentioned, being buſie in breeding and feeding their Young: In the beginning of Autumn they fly away, returning again the next Spring. Whither they fly, and where they ſpend their Winter we know not. It is reported, that in the latter end of *March*, or beginning of *April* there come over firſt ſome Spies or Harbingers, which ſtay ſome two or three days as it were to view and ſearch out the places they uſe to breed in, and ſee whether all be well: Which done they depart, and about the beginning of *May* return again with the whole troup of their fellows. But if that ſeaſon happen to be ſtormy and tempeſtuous, and the Sea troubled, there are abundance of them found caſt upon the ſhores lean and periſhed with famine. For they cannot, unleſs the Sea be calm, either proceed in their journey, or fiſh for their living. In *Auguſt* they all depart, nor are they ſeen any more any where about our Coaſts till the next Spring. The Young which cannot then fly they leave to ſhift for themſelves. All theſe things are to be underſtood alſo of the *Auk* and *Guillemot*. For theſe three kinds do for the moſt part fly together, and build in the ſame places.

A certain Fiſherman told us, that in the middle of Winter he once found a *Puffin* under water, torpid, among the Rocks not far from * *Bardſey* Iſland, which being again caſt into the Sea ſtreightway ſank to the bottom. Believe it that will. Mr. *Fr. Jeſſop* ſent us one killed in the freſh waters not far from *Sheffield* in *Yorkſhire*, much leſs than this we have deſcribed, which yet I think differed only in age; for all marks agreed.

*This Iſland is not far diſtant from the Promontery of *Carnarvanſhire*

Of all the birds of this kind hitherto deſcribed I think it to be true which Mr. *Johnſon* hath obſerved, that the underſide is ſo far white as it is immerſed in the water in ſwimming, the upper ſide as far as it is extant above the water being black.

The *Auk*, *Guillemot*, this Bird, and perchance all the reſt of this kind and the *Soland-Gooſe* lay but one Egg, and bring up but one young one at once, which is a thing very remarkable and worthy the obſervation: But that Egg for the bigneſs of the birds is an extraordinary great one.

Chap. VI.

The Greenland-Dove or Sea-Turtle: Columba Groenlandica dicta.

HIther alſo is to be referred that bird which in *Holland* they call the *Greenland-Dove*, for that alſo wants the back-toe. It is like the *Coulterneb*, but leſs: Its Legs alike red: Its Bill longer, not compreſſed ſideways, ſharp-pointed, a little crooked at the end, and prominent.

It hath a large white ſpot on the upper ſurface of each Wing, elſe it is all over black, of the colour of a *Coot*. We counted in each Wing twenty ſix or twenty ſeven quil-feathers.

I gueſs this bird to be the ſame with the *Puffinet* of the *Farn* Iſlands, which they told us was of the bigneſs of a *Dove*: Its whole body in Summer-time being black, excepting a white ſpot in each Wing, but turning white in the Winter: That it had a narrow, ſharp Bill, that it built in the holes of the Rocks, and laid two Eggs. I perſwade my ſelf alſo, that it is the ſame with the *Turtle-dove* of the *Baſs* Iſland near *Edinburgh* in *Scotland*, being thereto induced by the agreement of names.

Why

Why they call it a *Dove* or *Turtle* I cannot certainly tell. It is indeed about the bigneſs of a *Turtle*, and lays (they ſay) two Eggs at once like them, and poſſibly there may be ſome agreement in their voice or note.

SECTION II.

Whole-footed Birds with four fore-toes, or four toes all web'd together.

CHAP. I.

The Pelecan: Onocrotalus ſive Pelecanus, *Aldrov.*

THE length of this Bird from the point of the Bill to the end of the Feet or of the Tail was ſixty inches: Of the Bill it ſelf from the tip to the angles of the mouth fourteen. The ſpace between the Eyes and the Bill is *naked. Its feathers are almoſt like a *Gooſes*: Thoſe on the top of the Head longer than the reſt, ſtanding up like a Creſt. The colour of the whole body white: Yet the Neck is yellowiſh. The ſhafts of the back-feathers are black. The Tail and covert-feathers of the Wings are of a dusky aſh-colour, as in *Geeſe*: The ends of the quil-feathers black. The Tail is about ſeven inches long, made up of twenty or twenty two feathers, of almoſt equal length, ſave that the outmoſt are a little ſhorter than the middlemoſt. Each Wing hath twenty eight quil-feathers. The Bill toward the Head is of a Lead-colour, the end being yellowiſh: The upper Mandible broad and flat, the nether as it were two long ribs or ſpars joyned at one end, with a thick yellow skin interceding, which reaches backwards to the Throat beyond the Bill. At the end of the Bill is a little knob or protuberance, but the utmoſt tip of the Bill is hooked. The Noſthrils are ſituate at the baſe of the Bill near the Head; above the cranny or furrow running along the length of the Bill, as in the *Soland-gooſe*, and are round. The Eyes are of a yellowiſh aſh-colour, or rather whitiſh: The Legs and Feet of a lead colour. The ſhanks bare above the knees. All the four toes are web'd together, as *Aldrovand* hath rightly obſerved.

* Bare of feathers.

We ſaw and deſcribed this Bird in the *Royal* Aviary in St. *James* Park near *Weſtminſter*. The Emperour of *Ruſſia* by his Embaſſadours ſent to his Majeſty in the year 166 among other rarities preſented the King with two birds of this kind.

Franciſcus Stellutus, in a Letter to* *Jo. Faber* at *Rome*, deſcribes a *Pelecan* he ſaw at *Fabriano* thus. This Bird is much bigger than the biggeſt *Gooſe*, yea, equal to, or bigger than a *Swan*. [That which *Geſner* deſcribed weighed twenty four pounds, of twelve ounces the pound: Of *Aldrovands* two one weighed eighteen pounds, the other twenty five.] Of a whitiſh colour, yet not purely white, but clouded with ſomething of dusky or red. Nor is this colour uniform all the body over, for the Wing-feathers are darker than of the reſt of the body. Its Feet are made up of three Toes joyned together by a membrane, and a Heel behind. [Here by inadvertency I ſuppoſe *Stellutus* is miſtaken, for all four toes are web'd together.] The Bill almoſt as long as ones arm, but not toothed. The tip of the upper Chap is bent downward, with a hook like the claw of ſome bird. I could not ſee any Tongue, [neither could *Faber*, who ſaw this ſame bird afterward at *Rome*, find the Tongue, though he ſearched diligently for it] but where the root of the Tongue was fixed I obſerved certain perforate bodies. On the crown of the Head there ſtood up ſome feathers elevated above the reſt, imitating a Creſt. The bag which hangs down under the Bill, and which makes the *Pelecan* greatly different from other birds, is membranaceous, which it ſometimes contracts and draws up ſo to the Bill, that it is ſcarce conſpicuous, other times it ſuffers to be ſo dilated as to receive and contain many (*Faber* ſaith thirty) pounds of water: The membrane being ſo ſtretcht and diſtended, that it appears tranſparent, many fibres and veins running up and down through it. I wondered moſt (they are *Fabers* words) when the Bill being opened very wide, I ſaw the whole head of a man of great ſtature received in that vaſt gulf of the

* See his Annotations on *Recchus* his Animals.

*Craw.

* He so calls this bag under the Bill.

* Craw. In the Head I discovered two manifest but small holes reaching to the brain, which served for smelling. Wanting a Tongue it must make that uncouth sound, like the braying of an Ass, by the help of its *Larynx* only. I heard not this, but the Keeper of this Bird, that carried it up and down to shew, when he provoked it, striking it on the Bill, and the Bird seemed angry, and ready to peck or strike with its Bill, so that it would sometimes catch hold of his hand, it made a noise somewhat like the cry of a *Goose*, and that a small and hoarse one.

The noble Lord *Jo. Carolus Schaad* related to me, that a great while since there were three *Pelecans* shot in the River *Danow* running through *Bavaria*, two of which were kill'd, the third brought alive to the Duke of *Bavaria*'s Court, where it lived forty years. It was much delighted in the company and conversation of men, and in Musick both Vocal and Instrumental. For it would willingly stand by those that sung or sounded the Trumpet, and stretching out its Head, and turning its Ear to the Musick, listened very attentively to that sweet harmony, though its own voice is said to be like the braying of an Ass. This confirms what we read in *Aldrovand* of the age of the *Pelecan*. which was kept fifty years at *Mechlin*, and was verily believed to be eighty years old. Thus far *Faber*.

It is singular in this Bird, that its bones are pellucid, solid, without any marrow at all within; and that the division of the Wind-pipe into two branches is near about the middle of the stomach, which I never observed in any other bird, saith *Aldrovand*.

This bird feeds upon fish, as do all the rest of this kind. *Faber* saw it swallow two fresh *Hakes*, that weighed about four pounds, whole.

Many of them frequent the River *Danow*, but breed not there. *Bellonius* saith he saw flocks of *Onocrotali* in *Egypt*: *Olaus Magnus* writes, that they are frequent in the Northern Countries. *Oviedus* reports, that there is often seen a great flock of them about *Panama* in the *West Indies*, where they breed on the adjacent Rocks and Islandr. There are said to be of them likewise on the *Caspian* Sea. Of old time it seems they have frequented the Coast of *Italy* about *Ravenna*, for *Martial* hath it, *Turpe Ravennatis guttur Onocrotali*. *Matthiolus* makes them very common in the Sea-coasts of *Tuscany*, especially about the Cape *Argentaro*, being frequently found about *Port Hercole*, and the Lake of *Urbicello*, where the Inhabitants call them *Agrotti*. What credit this deserves (saith *Faber*) I know not, this I know, that many of *Matthiolus* his Country men have scarce ever seen so much as the Picture of an *Onocrotalus*, which if they were so common there, would not sure be accounted such strange things as to be carried about to shew at *Rome*, and in other places of *Italy*.

Chap. II.

The Soland Goose: Anser Bassanus.

In bigness it equals a tame *Goose*. It is by measure from the tip of the Bill to the end of the Feet thirty four inches long: To the end of the Tail thirty nine. Its Wings are of an extraordinary length, for being extended their extreme tips are seventy two inches distant.

Its Bill is long, streight, of a dark ash-colour, a little crooked at the point, having on each side not far from the hook an angular *Appendix* or tooth, like the Bills of some rapacious birds. Beyond the Eyes the skin on the sides of the Head is bare of feathers, as in the *Cormorant*. The Palate, and all the inside of the Mouth is black: The slit of the Mouth huge wide. At the angle of the * *Upsilon*-like bone is a very small Tongue: The Ears of a mean size: The Eyes hazel-coloured. [In another bird they were yellow.] By a diligent search we could find no Nosthrils, but in their stead a furrow or cranny extended on each side through the whole length of the Bill. If one view them attentively the edges of both Mandibles appear serrat, that it may more firmly hold the fish that it catcheth. It hath four fore-toes; for all its four toes are web'd together, and stand forward. The Legs are feathered down to the knees: The Feet and Legs, as far as they are bare, black: The Claw of the middle Toe is broad, and pectinated on the inside as in *Herons*. The Plumage is like that of a *Goose*. The colour of the old ones that have moulted their Chicken-feathers is all over white, excepting the greater quil-feathers of the Wings, which are black, and

* *Os hyoides.*

the

the top of the head, which with age grows yellow. The young ones are particoloured of white and dark brown or black, especially on the upper part of the body. The number of quil-feathers in each Wing is about thirty two. The Tail is white, about seven inches long, consisting of twelve feathers. The skin is very full, sticking loose to the flesh.

The Bird we described was taken alive near *Coleshil*, a Market Town in *Warwickshire*, not being able by reason of the length of his Wings to raise himself from the ground, on which, I know not by what chance, he had fallen down. The blind guts were very short: Scarce any footstep remaining of the channel conveying the Yolk into the guts.

In the *Bass* Island in *Scotland*, lying in the middle of *Edinburgh* Frith, and no where else, that I know of, in *Britany*, a huge number of these Birds doth yearly breed. Each Female lays only one Egg. Upon this Island the Birds, being never shot at or frightned, are so confident as to alight and feed their young ones close by you. They feed only upon fish, yet are the young *Geese* counted a great dainty by the *Scots*, and sold very dear, so that the Lord of the Islet makes no small profit of them yearly. They come in the Spring, and go not away again before the Autumn. Whither they go, and where they Winter is to me unknown.

Chap. III.

The Cormorant : Corvus aquaticus.

In bigness it is not much inferiour to a *Goose*. The colour on the upper side is dusky, shining with an obscure tincture of green; exactly like that of a *Shag*. The Breast and Belly are white. Each Wing hath about thirty quil-feathers, the extreme tips whereof, as also of those of the second row, are a little ash-coloured. The Tail is extended beyond the Feet, being an hand-breadth and an half long, when spread ending in a round circumference, being concave on the underside, consisting of fourteen stiff hard feathers, not being in any part covered with feathers incumbent on it either above or beneath. The Bill is like that of the *Shag*, three inches and an half long, hooked at the end; the upper Mandible black with sharp edges; the sides of the lower Mandible compressed and broad. The Tongue small, and almost none. The Eyes situate nearer the aperture of the Mouth than in most other birds, having cinereous circles round the Pupil. The Legs are strong, thick, but very short, broad, and flat, at least in the young ones. The Feet and Claws black, covered with a skin not divided into perfect scales, but cancellated. It hath four Toes in each foot, all web'd together by a broad black membrane, and standing forward, the outmost the longest, the rest in order shorter, The Claw of the middle Toe is serrate on the inside. But what is especially remarkable in this Bird, wherein it chiefly differs, the bigness excepted, from the *Shag*, is, that the *basis* of the nether Chap is covered with a naked yellow skin or membrane, like the *Elks*.

Its stomach is membranaceous, but its upper part thick and glandulous: Within were bones of fishes which it had devoured, and also one fish entire; that was a small *Cod-fish*; also many little, long, blackish worms of the figure of Earthworms. Such like worms also Mr. *Willughby* found in the stomach of a young one, which he got at *Sevenhuys* in *Holland*, where many birds of this kind build upon trees. The Guts are long, having many revolutions: The blind Guts very small: The Liver large, divided into two Lobes, the right one the bigger. It is infested with Lice of a pale red colour, having a great black spot in the middle of their Backs.

They are wont (saith * *Jo. Faber*) in *England* to train up *Cormorants* to fishing. When they carry them out of the rooms where they are kept to the fish-pools, they hood-wink them, that they be not frightned by the way. When they are come to the Rivers they take off their hoods, and having tied a leather thong round the lower part of their Necks that they may not swallow down the fish they catch, they throw them into the River. They presently dive under water, and there for a long time with wonderful swiftness pursue the fish, and when they have caught them they arise presently to the top of the water, and pressing the fish lightly with their Bills they swallow them; till each Bird hath after this manner devoured five or six fishes. Then their Keepers call them to the fist, to which they readily fly, and little by little one

* In his Annotations upon *Recchus* his Animals.

after another vomit up all their fish a little bruised with the nip they gave them with their Bills. When they have done fishing, setting the Birds on some high place they loose the string from their Necks, leaving the passage to the stomach free and open, and for their reward they throw them part of their prey they have caught, to each perchance one or two fishes, which they by the way as they are falling in the air will catch most dextrously in their mouths. This kind of fishing with *Cormorants* is it seems also used in the Kingdom of *China*, as * *Nierembergius* out of *Mendoza* relates.

* Lib. 10. chap. 54.

This Bird builds not only on the Sea-Rocks, but also upon trees. For (saith a certain *Englishman* mentioned by *Aldrovand*) I have seen their Nests on the Rocks near the mouth of the River *Tine*, and in *Norfolk* upon high trees together with the *Herons*. Which same thing we also have observed. For on the Rocks of *Prestholm* Island near *Beaumaris* we saw a *Cormorants* Nest, and on the high trees near *Sevenhuys* in *Holland* abundance. Which thing is worthy the notice-taking: For besides this and the following, we have not known or heard of any whole-footed bird that is wont to sit upon trees, much less build its Nest upon them.

Chap. IV.

The Shag, called in the North of England, *the Crane*: Corvus aquaticus minor sive Graculus palmipes.

It is bigger than a tame *Duck*, weighing almost four pounds. Its length from Bill-point to Tail end was two foot and an half. Its breadth the Wings being spread forty four inches. Its Bill streight, slender, neither flat, nor compressed sideways, but rather round, from the tip to the angles of the mouth four inches long; the upper Mandible black, hooked at the end, the nether from green of a pale yellow. It hath a wide gape. The Tongue is small, and almost none. The Nosthrils were not conspicuous, at least I could not discover any that it had. The Eyes small, situate lower and forwarder than is usual in other birds. Its body is small, flat and depressed like the *dun Divers*: The upper side of a black purplish colour, or black, with a dark tincture of green, shining like silk. The under-side is dusky, but in the middle of the Belly inclining to ash-colour. Under the Chin it is white, behind the Vent blacker than the rest of the Belly. The Tail is an hand-breadth and an half long, composed of twelve feathers, hard and stiff, the middlemost being the longest, and the outmost the shortest, so that being spread it seems to resemble an hyperbolical circumference. Each Wing hath thirty feathers in the first row. * The Wings when closed reach no further than the base or beginning of the Tail. The Legs are short, broad, compressed, feathered down to the Knees. The skin of the Legs is cancellated, not scaly. It hath four Toes, all connected by intervening membranes, armed with black Claws; the outmost Toe the longest, the rest in order shorter. The soals of the Feet and backsides of the Legs are black: The membranes connecting the Toes dusky. The Claw of the middle toe is serrate on the inside. It hath a huge, long, membranous stomach, which in the birds we dissected was full of small fishes. It swims in the Sea with its Head erect, its body almost immersed in the water. When a Gun is discharged at it, as soon as it sees the fire flash, immediately it pops under water like a *Doucker*, so that it is a very hard thing to shoot it.

* This mark agrees also to the *Cormorant*.

It differs from the precedent, 1. In bigness, being much less: 2. In the colour of the Belly, which in this is blackish, in that white: 3. In the number of the feathers of the Tail, which is this are but twelve, whereas in that they are fourteen: 4. In that the claw of the middle toe in this is serrate, as in *Herons*, in that only sharp-edged. [Mr. *Johnson* gives the *Cormorant* a serrate Claw, and denies it to this. Perchance herein there may be variety, Nature (as they term it) sporting it self, and not observing constantly the same rule:] 5. That in this there is not so much bare skin at the base of the Bill as in that, nor of the same yellow colour: 6. Lastly, in the slenderness and length of the Bill.

This Bird also builds on trees: Its Eggs are long and white.

Chap. V.

* The Sula of Hoier * Clus. near of kin to, if not the same with the Soland-goose.

* Auctar. ad lib. 5. cap. 6. exotic.

From the bottom of the Neck to the Rump, measuring along the Back, it was a *Roman* foot long. From the top of the Head to the Back were eleven inches. The Neck was as much about. The length of the Bill (which was very sharp-pointed and strong) was five inches and an half. The thicker part of the Bill, and that about the Eyes was black. The compass of the body was full twenty four inches, that is, two *Roman* feet. The Wings were more than a foot long; but the longer feathers of the Tail did not exceed the length of seven inches. It had but slender and infirm Legs, and those not more than two inches long, and wholly of a black colour, as were also the Feet, which were very broad, consisting of four Toes, of which the outermost, and that next it (which were the longest) consisted of three articulations, the third of two, the least of one, each armed with a small claw, except the second, the Nail whereof is a little broader than the rest, and serrate on one side; but they are all joyned together by a black membrane. The longer prime feathers of the Wings are all black, as are also those three, which are longest, and lie uppermost, and take up the middle part of the Tail. The rest of the body was covered with white feathers, which yet in the Back were something yellowish, as if they were strowed with clay or dust.

This Bird in many things agrees with the *Soland-goose*, yet in some it differs, *viz.* the sharpness of the Bill, the black colour about the Eyes, the smalness of the Legs, and the black colour of the middle feathers of the Tail. But I suppose *Clusius* was mistaken in the number of the joynts of the outer Toe, for the outer and middle Toe in no bird that I have yet hapned to see, except only the *Swift*, do agree in the number of joynts: Nor doth the outer Toe consist of three articulations, but four, the middle of three, the inner of two, and the least or back-toe of one.

Clusius took this description from a dried bird, sent by Dr. *Henry Hoier*, Physician in *Bergen* in *Norwey*, to Dr. *Peter Pauw*, first Professor of Physick in *Leyden*. It is (he saith) called *Sula* by the Inhabitants of the Islands *Ferroyer*, where it is taken. Those Islands, *Hoier* writes in his Epistle to *Clusius*, are said to be so called from the abundance of feathers there.

Chap. VI.

The Tropic Bird.

It is of the bigness of a *Duck*, hath a red Bill, about two inches long, somewhat bending downward, and sharp-pointed. A line of black is drawn on each side from the corner of the mouth to the back of the Head. The Belly is white: The Back also is white, but variegated with transverse lines of black thick set, which make it very beautiful to behold. The Wings are very long, yet each single feather short, as in the *Soland-goose*. In the outmost quil-feathers the one Web, *i. e.* that on the outside the shaft is black, the other or inner Web white; in the next to these the middle part of the feather along the shaft is black, the edges on both sides white; the next to these are all white; those next of all to the body black, and longer than the rest. The Feet are black, the Legs white: All the four Toes web'd together. In the Tail (if one may rely upon the stuft skin, or credit the relation of those those that sent it) are only two very long feathers, of about eighteen inches, narrow, and ending in sharp points. This description I took from the case of the bird conserved in the Repository of the *Royal Society*.

It is called the *Tropic-bird* because it is found about the Latitude of the Tropic circles, and no where else, so far as hath been by our English Travellers hitherto observed.

My honoured and ingenious friend, Mr. *Martin Lister* of *York*, takes this to be the bird described in the History of the *Carribbee* Islands in these words: *There are seen near these Islands, and sometimes at a great distance from them in the Sea, certain birds*

perfectly white, whose Beaks and Feet are as red as Coral. They are somewhat bigger than Crows: They are conceived to be a kind of Herons, because their Tails consist of two long and precious feathers, by which they are distinguished from all other birds frequenting the Sea. This, saith Mr. *Lister*, can be meant of no other than the *Tropic-bird*: But then it is wrong described, with red legs, and a perfectly white body.

Chap. VII.

* *The* Anhinga *of the* Tupinambæ *a people of Brasil. Marggrav.*

* *Mergi aquatici.*

IT is an elegant sort of * *Diver*. Its body (excepting the Neck) is of the bigness of a common tame *Ducks*: Its Bill streight, not thick, very sharp, three inches long, the foremost half both above and below having a double row of very sharp * teeth inclining backwards. Its Head is small, oblong, resembling a Serpents, a little more than an inch and half long: Its Eyes black, with a golden circle: Its Neck slender, round, a foot long: Its body but only seven inches. Its Legs are short: The upper two inches long, and feathered; the lower scarce an inch and half. It hath four Toes, three turned forwards, joyned together by membranes, after the manner of *Ducks* or *Cormorants*, the fourth shorter, extended sideways below, joyned to the rest by a membrane; very sharp, crooked Claws: A broad Tail, ten inches long, consisting of twelve feathers. The Wings end about the middle of the Tail. The Bill is grey, and after its rise a little yellowish. All the Head and Neck are covered with very fine feathers, to the touch as soft and sleek as Velvet, on the upper side of the Head and Neck of a colour from grey inclining to yellow: Under the Throat and beneath the Neck of a grey colour, like the fur of those skins called *Verhfelle*, of which womens * Caps are made, which fur they resemble both to the touch and sight. The whole breast, lower Belly, and upper Legs are covered with soft feathers of a silver colour: The beginning of the Back with brown ones, each whereof hath in its middle an oblong spot of a whitish yellow colour, so that it appears speckled: The rest of the Back hath a black Plumage. It hath long Wings, at the *setting on covered with the like short feathers as the beginning of the Back. Then follows a row of half grey, half black ones, that is, on one side the shaft gray, on the other black: But the prime feathers are black. The Tail consists of black and shining feathers, whose ends are grey. The Legs and Feet are of a colour from a dark yellow inclining to grey. It is very cunning in catching of fish. For after the manner of Serpents, first drawing up its neck, it darts forth its Bill upon the fishes, and catches them with its Claws. I have eaten of its flesh, but it is not much better than the flesh of a *Gull*.

* The word is *Hamuli*, signifying little hooks.

* In *Germany* the women wear great round fur-caps as big and round almost as Turbants.

* Or their beginning perchance he may mean near the ridge.

SECTION III.

Whole-footed Birds, having the back-toe loose, with a narrow Bill, hooked at the end, and not toothed.

Chap. I.

* *Of the* Artenna *of the* Tremiti *Islands*: De Ave Diomedea.

THis Bird *Aldrovandus* sets forth for the *Diomedea avis*, induced thereto by this argument chiefly, because the present Inhabitants of the *Diomedean* Islands, called now *Tremiti*, do affirm thereof what *Pliny* of old concerning the *Diomedean Birds*, *viz.* that they are found in no other place but in those Islands. His description he partly borrows of *Gesner*, partly takes from a Picture of the Bird.

They

They are (saith he) of the bigness of a good corpulent hen, but have pretty long Necks and Legs. Their colour is dusky, or a dark ash, and (if I be not mistaken) they have some white under their Bellies, as wild *Pigeons* sometimes have. [My Bird on the under-side was almost wholly white.] Its Bill is very hard, and hooked at the end like an *Eagles*, but not so much, of a bright red, if I well remember. [I believe he did not well remember this, for the Bill in my Bird was of a pale yellow, all but the hook, which was black.] Its Eyes fair, of a fire-colour, not very great. For I did once see one, which being smitten with a rod on the Head opened its Eyes and cried out, but shut them presently again, not being able to bear the light of the Sun. *And again:* Their colour is not simply white (as *Pliny* writes) but inclining to cinereous, as in *Fulicæ* (he means a Bird of the *Gull*-kind) to which also he compares them. Whether they have toothed Bills or not, I did not observe, but they have them strong and pretty long. Thus far *Gesner*. Which notes (saith *Aldrovandus*) do for the most part agree exactly to my Bird, which had it not a hooked Bill, one might not unfitly judge to be of the great *Gull-kind:* It doth so resemble them in the whole body, but especially in the Wings. The Feet are of the same colour with the Bill, as are the Legs also.

But this description is not much to be confided in, being partly borrowed of *Gesner*, (who had it from the relation of a certain friend, who described it by memory) partly took from a Picture, or a dried case of the Bird sent him out of the Island. Those who happen to travel to the Islands called *Tremiti*, would do well to enquire diligently concerning these Birds, or rather themselves procure and exactly describe them, that so we may not be any longer without a true and perfect history of them.

Chap. II.

The Puffin of the Isle of Man, which I take to be the Puffinus Anglorum.

Mr. *Willughby* saw and described only a young one taken out of the Nest, who makes it equal in bigness to a tame *Pigeon*. Those which I saw dried in the Repository of the *Royal Society*, and in *Tradescants* Cabinet, seemed to me somewhat bigger. Its colour on the Head, Neck, Back, and whole upper side is dusky or black, on the Breast and Belly white. The Bill is an inch and half, or it may be two inches long, narrow, black, and for its figure something like to a *Lapwings* Bill, the upper Chap being hooked at the end, like a *Cormorants*. Its base is covered with a naked skin, in which are the Nosthrils. From the Nosthrils on each side a furrow or groove is produced almost to the hook. The Head is blacker than the rest of the Back: The Wings long: The Tail an hand-breadth long, and black. The Feet underneath black; above, the outer half of each foot is black, the inner of a pale or whitish flesh-colour, so that the middle toe is partly white, partly black. It hath a small back-toe, and black Claws.

For its extraordinary fatness its flesh is esteemed unwholsom meat, unless it be well seasoned with salt.

At the South end of the Isle of *Man* lies a little Islet, divided from *Man* by a narrow channel, called the *Calf of Man*, on which are no habitations, but only a Cottage or two lately built. This Islet is full of Conies, which the *Puffins* coming yearly dislodge, and build in their Burroughs. They lay each but one Egg before they sit, like the *Razor-bill* and *Guillem*; although it be the common perswasion that they lay two at a time, of which the one is always addle. They feed their young ones wondrous fat. The old ones early in the morning, at break of day, leave their Nests and Young, and the Island it self, and spend the whole day in fishing in the Sea, never returning or once setting foot on the Island before Evening twilight: So that all day the Island is so quiet and still from all noise as if there were not a bird about it. Whatever fish or other food they have gotten and swallowed in the day-time, by the innate heat or proper ferment of the stomach is (as they say) changed into a certain oyly substance [or rather chyle] a good part whereof in the night-time they vomit up into the mouths of their Young, which being therewith nourished grow extraordinarily fat. When they are come to their full growth, they who are intrusted by the * Lord of the Island draw them out of the Cony-holes, and that they may the more readily know and keep account of the number they take, they cut off one foot and reserve

* The Earl of *Darby*.

reserve it; which gave occasion to that Fable, that the Puffins are single-footed. They usually sell them for about nine pence the dozen, a very cheap rate. * They say their flesh is permitted by the *Romish* Church to be eaten in *Lent*, being for the taste so like to fish.

* The same is reported of the French *Macreuse*, perchance the same bird with the *Puffin*.

Gesner, and *Aldrovand* following him, from the relation of a certain *English* man, write, that they want hard feathers, being covered only with soft feathers, or a kind of down: Which is altogether false, they being furnished with sufficiently long Wings and Tail, and flying very swiftly. They say it is a foolish bird, and easily taken. We are told that they breed not only on the *Calf of Man*, but also on the *Silly* Islands. Notwithstanding they are sold so cheap, yet some years there is thirty pounds made of the young Puffins taken in the *Calf of Man:* Whence may be gathered what number of birds breed there.

Chap. III.

* *The Brasilian* Maiaguè *of Piso.*

Maiaguè, also received into the number of whole-footed, edible, but Sea wild-fowl, is of the bigness and shape of a *Goose*; not unlike to those great black diving birds of our Country, having in like manner the end of their Bills hooked and fitted for ravin: So that it seems to resemble *Gesners* * *Corvus aquaticus*. It hath a thick, round Head; shining Eyes; a long Neck, decently bowed like a *Swans*. The whole Bird is of a dusky and blackish colour, only the forepart of the Neck adorned with yellow feathers. It lives in the Sea about the mouths of Rivers: But builds its Nest and lays its Eggs on the shore. It is a swift bird, swims and dives well, and cunning in avoiding and escaping the snares of the Fowlers.

* The Cormorant.

Its flesh is esculent, and good meat, especially if it be young, but because it feeds always upon fishit is disapproved and rejected by some.

Whether this Bird hath all its four toes web'd together or not Piso *doth not tell us, therefore we have subjoyned it to those which have the back-toe loose, although we suspect that it doth rather belong to the former* genus.

Chap. IV.

The Shear-water.

OUr learned and worthy friend Sir *Thomas Brown* of *Norwich* among the designs and Pictures of many other birds, sent us also that of this, with a short history of it as followeth. The *Shear-water* is a Sea-fowl, which fishermen observe to resort to their Vessels in some numbers, swimming swiftly to and fro, backward, forward, and about them, and doth as it were, *radere aquam*, shear the water, from whence perhaps it had its name. It is a fierce and snapping fowl, and very untractable. I kept two of them five or six weeks in my house, and they refusing to feed, I caused them to be crammed with fish, till my Servant grew weary, and gave them over: And they lived fifteen days without any food. So far Sir *Thomas*. This Bird, according to the Picture of it, hath a great head like a *Gull:* Its upper part [Head and Back] were of a dark brown or blackish: Its Chin, Throat, and Breast white: Its Feet of a flesh-colour: Its Bill long, round, hooked at the end like a *Cormorants*, and blackish: Its Wings long, when gathered up reaching to the end of the Tail.

SECTION IV.

Of whole-footed Birds with the back-toe loose, having a narrow Bill, hooked at the end, and toothed, called DIVERS, *in Latine,* MERGI.

CHAP. I.

The Goosander. Merganser, * *Aldrov.* Harle, *Bellonii.*

* *Ornithol.* book. 16. chap 63.

ITs weight was almost four pounds: Its length from the tip of the Bill to the end of the Tail or Claws (for they were equally extended) twenty eight inches: Its breadth, the Wings being spread, forty. It is long-bodied: Its Back broad and flat. The Head and upper part of the Neck is of a very deep shining green, almost black: The lower half of the Neck is of a glossie white. Yet the upper side of the bottom of the Neck, the middle of the Back, and the interiour scapular feathers are black [the exteriour are white.] The lower part of the Back is of a pale ash-colour. On both sides near the Rump, and on the very Rump and Thighs the feathers are variegated with transverse * dusky lines. The Tail is made up of eighteen feathers, wholly cinereous. Each Wing hath about twenty six prime feathers, the ten outmost black; the four next also black, but tipt with white: The five succeeding white, with their bottoms black: The remaining six or seven next the body white, with their exteriour edges black. In the second row of the Wing those incumbent on the white quil-feathers are white from their tips to the middle, beneath black. Thence as far as the bastard Wing all are white: But between those white ones and the long scapular feathers some black ones intervene. Whence if you take the long scapular feathers, which cover the Back, for part of the Wing, the Wings will be (as *Aldrovandus* describes them) black toward the back, next white, with a certain paleness; then black again, but more remisly; after that again white, the extreme feathers at last being black. The whole under-side of the body (excepting the Wings, which are white underneath) of a faint yellow or *Isabella* colour. The exteriour feathers of the Thighs are elegantly varied with transverse waved lines of a whitish and blackish colour, alternately placed.

* Or grey, for they are made up as it were of innumerable little black points or specks.

The Bill measured from the tip to the corners of the mouth exceeds the length of a mans middle finger: The lower Mandible black; the upper along its middle or upper part black, on the sides red; the tip being black and hooked, both upper and lower toothed on both sides like a Saw, the teeth inclining inward. The Tongue and Palate are yellow.

It hath not a Crest properly so called on the Head, but the feathers are more loose, and stand more staring upwards than ordinary, whence also the Head seems to be bigger than indeed it is. The Ears are round; the Nosthrils large, the *Irides* of the Eyes of a sanguine colour. The Legs and Feet are of an elegant red-lead colour. The back-toe broad, with an appendant membrane. It hath a huge bony labyrinth on the wind-pipe just above the divarications and besides, the windpipe hath two swellings out one above another, each resembling a powder-puff.

The Stomach is scarce musculous; out of it dissected we took a *Roch* and an *Eel*, whence it is manifest, that the bird feeds upon fishes. It hath a gall-bladder. The blind guts were two or three inches long, and full of Excrements.

The Dun-Diver or Sparlin-fowl: Merganser fœmina. Mergus cirratus longirostèr, *Gesn.* & *Aldrov.*

The Sexes in this kind of bird differ extremely from one another in colour, so that both *Gesner* and *Aldrovand* do set them forth for different *species*, calling the Female, *Mergus cirratus longirostèr major.*

The Head of this (which we take to be the Female of the precedent) is of a sordid red. The feathers on the Crown of the Head stand out somewhat, and seem to bend backward in form of a crest or toppin. The Chin is white: The whole Back of

of bluiſh aſh-colour; the Fowlers call it Dun, whence this Bird alſo is by them called the *Dun Diver*. The underſide of the body is of the ſame colour as in the Male. The quil-feathers of the Wings alſo do not much differ as to their colours. The Bill and Feet agree with thoſe of the Male. The Wings in both Sexes are ſhort, and little for the bulk of the body; notwithſtanding by the very quick agitation of them, it flies exceeding ſwiftly near the ſurface of the water.

The Stomach of this Bird is as it were a Craw and a Gizzard joyned together. The upper part reſembling the Craw hath no wrinkles or folds in its inner membrane, but is only granulated with ſmall papillary glandules, reſembling the little protuberances on the third ventricle of a Beef, called the *Manifold*, or thoſe on the ſhell of a *Sea-Urchin*.

Chap. II.

The Bird called at Venice, Serula: Mergus cirratus fuſcus: Anas (*ut puto*) longiroſtra Geſneri, *Aldrov.* t. 3. p. 281.

This Bird is very common at *Venice*. In bigneſs it comes near to the common *Duck*. All its Head and the upper part of its Neck are of a dark fulvous colour, but the crown of the head darker or blackiſh. It hath a pretty long creſt or tuft on its head hanging down backward. The Back is dusky, or of a very dark cinereous. The Throat for an inch and halfs ſpace is white, below griſled of black, white and red. The whole Belly white. The Bill from the tip to the angles of the mouth three inches, ſlender, and of a round figure: The lower Mandible wholly red, hath in the end an aſh-coloured oval ſpot, the upper is of a dark brown above with ſome mixture of green, red on the edges, hooked at the end, and marked with a whitiſh oval ſpot: Both toothed on both ſides along the edges with teeth like thoſe of a Saw inclining inwards. The Eyes of a ſanguine colour. The Wings are very ſhort and little for the bigneſs of the bird, having each about twenty five or twenty ſix feathers in the firſt row. Of theſe the outmoſt ten are black, the eleventh hath the tip white, and the three next in order ſtill more, the following ſix have their upper halves white: The reſt are indeed white, but have their edges black, ſome on one ſide only, ſome on both. Of the ſecond row thoſe that cover the white ones of the firſt are themſelves white half way. Above toward the baſe of the Wing is a great white ſpot, beginning from the baſtard Wing. The coverts of the underſide of the Wing, and the interiour baſtard wing are white; but thoſe under the outmoſt quil-feathers are dusky. The Tail is ſhort, conſiſting of eighteen feathers. The Legs ſhort: The Feet red, or of a deep Saffron colour. The Wind-pipe at the divarication hath ſuch a veſſel as the precedent, and beſides above ſwells out into a puff-like cavity. In the ſtomach we found a *Mullet*.

This Bird is not much more than half ſo big as the precedent: It differs alſo in its colour, its creſt, the white ſpot below the baſtard Wing, and other accidents. We ſuſpect the Bird deſcribed was a Female, and that its Male repreſents the *Gooſander*, though we have not as yet hapned to ſee it; unleſs perchance it be that whoſe skin ſtuft we ſaw in Sir *William Foſters* Hall at *Bambergh* in *Northumberland*, which had on each Wing a white ſpot, and two ſmall tranſverſe black ſtrakes. We cannot but wonder (if the Male of this Bird be ſuch a one as the *Gooſander*) that among ſo many Females at *Venice* we ſhould not ſee one Male. Mr. *Willughby* ſaw and deſcribed at *Venice* another Bird of this kind, perchance ſpecifically different from this, under the name of *Cokall*; for 1. It was leſs: 2. It had no Labyrinth. This makes us doubt again concerning the Sexes of theſe birds; for in others of the *Duck-kind* the Females have no labyrinth; whereas in the *dun Diver*, which we take to be the female of the *Gooſander* we found a large labyrinth; and yet in this leſſer Diver, called *Cokall*, it ſeems there was none; ſo that we will not be very confident that the *Gooſander* and *Dun Diver* differ no more than in Sex. This Bird *Leon. Baltner* calls *Klein Merch*, *i. e.* a *little Diver*.

Geſner beſides theſe ſets forth four or five ſpecies of this kind of birds, whoſe deſcriptions were ſent him by a certain *German*. But thoſe deſcriptions are ſo ſhort, general, and obſcure, that we cannot thence certainly learn what birds the Author means.

Chap.

Chap. III.

The * Mergus Rheni *of Geſner, Aldrov.* tom. 3. pag. 275.

* Diver of the River *Rhine.*

IT is in bigneſs equal to a *Duck*, and the moſt *Duck*-like of any of the *Mergi*; Its body all over particoloured of black and white: Its Bill and the ſpace about the Eyes black. On both ſides the back of the Head are black ſpots: The reſt of the Head is partly black, partly dusky or cinereous. The lower or fore-part of the Neck with the Belly are of a white colour, but varied here and there with cinereous points or ſpots, which in the lower part of the Belly and ſides being drawn out in waved lines, make a very pretty ſhew, and pleaſant to behold. The Legs grow backwards about the bottom of the Belly. The Feet and Toes are dusky, the membranes on the inſide black. The Tail black: The Wings and whole back diſtinguiſhed with ſeveral black and white ſpaces alternately. Some call this Bird a *White Nun*.

I ſuſpect that this Bird was no other than our *Albellus*, next to be deſcribed: Only the bigneſs and want of a creſt forbid it. Perchance *Geſner* might deſcribe it from the relation of others, or from a Picture. I am ſure *Leonard Baltner*, a Fiſherman and Fowler of *Strasburgh*, who did very diligently obſerve, gather together, and cauſe to be painted all the birds frequenting the *Rhene* thereabouts, gives us no other bird of this kind but the *Albellus*, to which alſo he gives the title of *White Nun*.

Chap. IV.

The other Albellus *of Aldrovand*, tom. 3. p. 279. *the* Mergus major cirratus *of Geſner, Aldrov.* tom. 3. p. 276. *We may call it with the Germans the White Nun.*

IN bigneſs it comes near to a *Wigeon*; weighing about twenty four ounces. From the point of the Bill to the end of the Tail, or of the Feet it was by meaſure eighteen inches and an half long: between the tips of the Wings extended twenty ſeven inches broad. The Bill an inch and half, or near two inches long.

Its Head and Neck were white, excepting a black ſpot under the Creſt (which it hath hanging down backward from behind its Head) encompaſſing the Creſt, and ending in an acute angle below, and another on each ſide extending from the angles of the mouth to the Eyes. The Breaſt, Belly, and whole under-ſide is purely white. As for the upper ſide, all the Back is black. The long ſcapular feathers incumbent on the back are white. At the ſetting on of the Wing on each ſide there is a crooked line of black, half encircling the Neck juſt above the ſhoulders, and higher up the Neck, where the black we mentioned in the middle of the Neck begins, there is another ſuch like arcuate line on each ſide, reſembling half a collar.

The ten outmoſt quil-feathers of the Wings are wholly black; the tips of the next ten are white, of the hindmoſt in order more than the foremoſt. Then follow two half white, *viz.* on the outſide the ſhaft, the other half being black: The reſt of the feathers are cinereous: The number of all twenty ſeven. The feathers of the ſecond row growing on the middle of the Wing are black, only their utmoſt tips being white. Above, a broad and long ſpot or bed of white beginning from the baſtard wing reacheth to the twentieth quil-feather. The interiour baſtard wing is white. The ſide-feathers under the Wings variegated with tranſverſe waved black lines are very pleaſant to behold. The Tail is dusky, or between aſh-coloured and black, compoſed of ſixteen feathers, a quarter of a yard, or three inches and an half long, the middle feathers being the longeſt, the reſt on each ſide gradually ſhorter to the outmoſt.

The Bill is of a cinereous or lead colour, [but at the tip of each Mandible is a ſpot of ſordid white] thicker at the Head, growing ſlenderer by degrees toward the point, narrower, and leſs than in the *Duck*-kind. The upper Mandible hooked at the end, toothed on the ſides: The Noſthrils oblong, open, at a good diſtance from the feathers: The Eyes of a dark colour. The Legs and Feet of a cinereous or lead colour, the Toes being joyned by a dusky membrane. The foremoſt Toe and the back-

Toe have lateral appendant membranes, reaching their whole length.

The Wind-pipe at the divarication ends in a certain great, ſtrong, bony veſſel, which we are wont to call a Labyrinth; whence proceed the two branches tending to the Lungs.

This Bird hath not two blind guts, after the manner of other Birds, but only one ſhort blunt one, [yet in one bird of this kind we found two.] The Wind-pipe is faſtned to the upper angle of the Merry-thought by a tranſverſe ligament, and then aſcends upward to the Labyrinth. It feeds upon fiſhes.

The *Albellus aquaticus* of *Aldrovand*, as it ſeems to me, differs not from this bird, for both the figure, and all the marks he gives of it, agree; only he makes no mention of the creſt, perchance it was a young bird he deſcribed.

There is in this kind alſo ſo much difference between the Sexes, that the Writers of the Hiſtory of Birds have taken the Male and Female for different ſorts. The Female is deſcribed by *Geſner* under the title of *Mergus glacialis*, which Mr. *Johnſon* Engliſheth the *Lough-diver*. It was ſent us by Mr. *Dent* from *Cambridge* by the name of a *Smew*.

In the Female the whole Head and the Cheeks are red or fulvous: The Throat white. On the beginning of the Breaſt above the Craw there is ſeen as it were a collar of a darker or brown colour: It hath no Creſt. All the upper ſide except the Wings is of a duſky aſh-colour or brown. About the middle of each Wing are two tranſverſe white lines. In other particulars it agrees well enough with the Male.

It hath a great Gall; oblong Teſticles: The Guts have many revolutions. The Stomach larger than in granivorous birds, leſs muſculous, filled with fiſhes, in the birds we opened.

SECTION V.

Of Douckers *or Loons, called in Latine,* Colymbi.

Chap. I.

Of Douckers *in general.*

Douckers have narrow, ſtreight, ſharp-pointed Bills: Small Heads, and alſo ſmall Wings: Their Legs ſituate backwards near the Tail, for quick ſwimming, and eaſier diving; broad flat Legs; by which note they are diſtinguiſhed from all other kinds of birds: Broad Claws like humane nails. Of theſe Douckers there are two kinds, The firſt is of ſuch as are cloven-footed, but fin-toed, having lateral membranes all along the ſides of their Toes, and that want the Tail; the ſecond is of thoſe that are whole-footed and *caudate, which do nearly approach to thoſe birds we call *Tridactylæ*, that want the back-toe. Theſe are not without good reaſon called *Douckers*, for that they dive much, and continue long under water, as ſoon as they are up dopping down again.

* Have the Tail.

Chap. II.

Cloven-footed Doucкers *that have no Tails.*

§. I.

The greater Loon or Arsfoot: Colymbus major, *Aldrov.*

It weighed a pound: Was from Bill to Claws twenty three inches long: Between the extremities of the Wings ſpread twenty three and an half broad. The Bill from the tip to the angles of the mouth was two inches long. The feathers inveſting the whole body were fine, ſoft, and thick: The Head and Neck brown: The Back blacker: The ſides and lower Belly dusky: The Breaſt of a ſilver colour. It wholly wants the Tail. Each Wing hath about thirty quil-feathers: Of which the outmoſt twelve are black; the tip of the thirteenth is white; and the tops of the following in order more and more to the twentieth, after which the next four are wholly white: The twenty fifth towards the tip is brown, and in the twenty ſixth the white ends. The leſſer rows of Wing-feathers underneath are white.

Its Bill is black, narrow or compreſſed ſideways; about the angles of the mouth and on the nether Chap yellowiſh. The Tongue long, and a little cloven: The Eyes of an aſh-colour with ſome mixture of red: Its Claws are broad like the nails of a man, black on one ſide, on the other of a pale blue or aſh-colour: The outmoſt toe the longeſt. The Legs broad, flat, ſerrate behind with a double row of aſperities: The Toes are broad, bordered on each ſide with appendant membranes, but not web'd together.

It hath no Labyrinth on the Wind-pipe: That we deſcribed had a great Gall: A large Stomach, almoſt round, and therein we found Sea-weeds and fiſh-bones.

§. II.

The greater creſted or copped Doucker of Aldrovand, lib. 19. cap. 52.

Both Mandibles of the Bill, where it joyns to the Head, are tinctured with a Saffron-colour. The Head is black on the crown, beneath cinereous; which colours meet near the ends of the Eyes (which are yellow.) From the back of the Head hangs down a tuft of black feathers. The upper part of the Neck is alſo black, the remaining part of a middle colour between * ferrugineous and roſe. The Breaſt and Belly are of a whitiſh aſh-colour. The Back and Wings black, but of theſe the ridges and extremes are white. It hath no Tail at all: The Rump from cinereous is black. The Legs, Feet, and Claws are of the ſame make and ſhape as in the former.

* Ruſty.

§. III.

Of the Water-Hare, or creſted Mexican Doucker of Hernandez.

That kind of Duck [ſo he calls it] which *Ariſtotle* calls *Colymbus*, but *Gaza* renders *Urinatrix*, the *Mexicans* are wont to call *Acitli* or the *Water-hare*. This would be altogether the ſame with that deſcribed and delineated by ſome of the later Writers, were not the Head adorned with a greater and black creſt, the Belly of a ſhining ſilver colour, and the Neck beneath of a pure white, above of a dark brown. It frequents Lakes, either ſwimming in the water or abiding near it: For it can neither fly, nor conveniently walk on the Land, its Thighs being ſo joyned and as it were * united to the body, that they ſerve only for ſwimming, not for walking. It feeds upon the fiſhes it catches, and they are its ſuſtenance. It breeds up its young among ruſhes and reeds; and exceeds not the bigneſs of our common *Ducks*. The Male is ſomewhat longer-bodied, and hath a larger neck and creſt. The Bill of the Female is ſhorter, black, and on both ſides near the Eyes covered with fulvous feathers, whereas the Males is with white. This is that Bird which the *Indians* fabulouſly report to call forth or conjure up winds, when he perceives the Fowlers aim to

* *Coalitis*, *i.e.* growing together.

catch him, which blowing trouble the waters ſo that their Canoes are overturned and the men drown, if they do not happen to kill him in the ſhooting of five arrows out of a bow. They fancy that in his heart diſſected is or may be found a Jewel, uſeful for many things, and highly prized, not to be conſecrated to any but God. But theſe are idle ſtories and lies, proceeding from the credulity of theſe people. Its fleſh is not pleaſant, nor very wholeſome, like that of other fenny birds, and therefore not to be uſed for food by any one of a critical palate.

Between this and the precedent *Doucker* there is ſo little difference, that I ſcarce doubt but they are the ſame.

§. IV.

The grey or aſh-coloured Loon of Dr. Brown.

THis Bird differs from the common *Doucker*, as well creſted as not creſted, in the grey colour of its body, being much rarer with us. The Picture repreſents the feathers on the crown of the Head ſtanding up in form of a creſt or toppin.

§. V.

The greater creſted and horned Doucker.

IT is ſomething leſs than that deſcribed in the firſt place, but hath a thicker and longer Bill, approaching to a ferrugineous colour. It is both creſted and horned, having long feathers ſtanding out about the crown of the Head and upper part of the Neck, black above, and red on the ſides. The Chin and ſpace about the Eyes is white, bounded with red. The Neck is not ſo long as in the firſt kind. The upper or back-ſide of the Neck is partly blackiſh, and partly ſhews ſomething of red. The Breaſt and Belly are almoſt of the ſame colour with the ſpot we mentioned encompaſſing the Eyes, *viz.* white with a mixture of red. On the Back ſome long downy feathers of a cinereous and a reddiſh colour are mingled with the black ones. The Wings are longer in proportion than in the firſt, their ridges and almoſt all their quil-feathers being whitiſh, elſe of a ſooty colour. [In the Bird we ſaw the Wings were of a dusky or brown colour, but the leſſer quil-feathers were white, as alſo thoſe ſmall feathers on the baſe or ridge of the Wing.] The Legs are not ſituate ſo backward as in the firſt.

§. VI.

The Didapper, or Dipper, or Dobchick, or ſmall Doucker, Loon, or Arsfoot: Colymbus five Podicipes minor.

FOr the ſhape of its body it is like to a *Teal*, but leſſer by almoſt a third part: Of the weight of ſix ounces: From the tip of the Bill to the end of the Claws ten inches and an half long: between the tips of the Wings diſtended ſixteen broad. Its Bill from the point to the angles of the mouth is one inch, ſtreight, ſharp, almoſt like a *Thruſhes* Bill, thicker at the Head, and leſſening by degrees to the point: The upper Chap black, excepting only its very tip and ſides, which are of a white or pale yellow, as is alſo the whole lower Mandible. The Tongue is long, ſharp like the Bill, and cloven. The Noſthrils are a little remote from the feathers; The Eyes great, with hazel-coloured *Irides*. The whole body is inveſted with a thick and ſoft Plumage or down, eſpecially on the under-ſide. Its colour on the Back is a dusky or dark brown, on the Belly a white, or rather ſilver-colour. The Chin white: The Head and Neck darker than the Belly, lighter-coloured than the Back. The Throat and ſides of the Neck are a little red: The lower Belly of a ſordid dusky colour. The Thighs have a little mixture of red. The Neck is ſlender, ſcarce an hand-breadth long. Its Wings are ſmall and concave: Each having about twenty ſix quil-feathers: The twelve outmoſt are of a Mouſe-dun, or black brown, the interiour to the twenty third particoloured, the outer Webs being dusky, the inner partly white, the white part being in the nearer to the body broader, in the more remote feathers narrower. As for the leſſer rows of Wing-feathers, thoſe above are black, thoſe beneath white. It hath no Tail at all, but yet hath the rump-glandules, though leſſer than ordinary, out of which alſo ſprings a bruſh or tuft of feathers, as

in

in other Birds. The Legs are situate very backwards at the end of the body, made rather for swimming than walking, (so that it cannot walk, but with the body erect almost perpendicularly) compressed or flat, of a sordid green colour, serrate behind with a double row of asperities. The soals of the feet are black. The Feet are divided into three broad Toes, finned on each side with lateral membranes, having thin, broad, blunt Claws like humane nails. Yet are the Toes joyned together by intervening membranes from the divarication to the first joynt. It hath also a small back-toe finned in like manner on each side: Two blind guts of a moderate length: No Labyrinth on the Wind-pipe: A membranaceous stomach: Strong musculous Thighs, by the help whereof it swims very swiftly, diving down to the bottom, and rising again at pleasure. From the make and conformation of its parts it moves with more ease and expedition under water, than either upon the surface of the water, or upon the Land. So soon as it is risen above water it holds up its Head, looks about it, and with wonderful celerity plunges it self under water again. It can hardly raise it self up out of the water, but when it is once gotten upon the Wing it can hold out flying a long time. The stomach of that we dissected was full of grass and weeds. *Belloni-us* saith, that it feeds most willingly upon fishes. Being rosted it smells very strong.

Both *Gesner* and *Aldrovand* describe two kinds of small *Douckers*, but they differ so little one from the other that I suppose the diversity is rather in Age or Sex than in *Species*.

Chap. III.

Whole-footed Douckers *with Tails.*

§. I.

The greatest speckled Diver or Loon: Colymbus maximus caudatus; Mergus max. Farrensis sive Arcticus, *Clus.*

This is a singular kind of Bird, and as it were of a middle nature between whole-footed birds with four fore-toes and with three. In bigness it exceeds a *tame Duck*, coming near to a *Goose*. It is long-bodied, hath a round Tail, and a small Head. The upper part of the Neck next to the Head is covered with feathers so thick set, that it seems to be bigger than the very Head it self.

The colour of the upper part, *viz.* the Neck, Shoulders, covert-feathers of the Wings, and whole Back, is a dark grey or dusky, pointed or speckled with white spots, thinner set on the Neck, and thicker on the Back. These white spots are bigger upon the long scapular feathers and coverts of the Wings, and smaller in the middle of the Back. The lower part of the Neck, the Breast and Belly are white. In a bird I saw that was killed in the Isle of *Jarsey* the Head was black and also the Neck, which had a white (or rather grey) ring, about the middle of an inch or inch and half broad, consisting of abundance of small white specks. We counted in the two outmost * joynts of each Wing thirty quil-feathers, but they are short, all black, or of a dark brown. It hath a very short Tail, of the figure of a *Ducks*, made up of at least twenty feathers. Its Bill is streight, sharp, like that of the *Guillem*, almost three inches long; the upper Mandible black or livid, covered with feathers to the very Nosthrils, reflected a little upwards; the nether is white. The Nosthrils are divided in the middle by a skin hanging down from above. It is whole-footed, and hath very long fore-toes, especially the outmost. The back-toe is very short and little. Its Legs are of a mean length, but flat and broad like the ends of Oars, the exteriour surface being brown or black: The interiour livid or pale-blue. The Claws broad like the nails of a man. The Legs in this bird are situate almost in the same plain with the Back; so that it seems not to be able to walk unless erected perpendicularly upon the Tail. It hath no Labyrinth upon the Wind-pipe. The Liver is divided into two Lobes, and hath a bladder to contain Gall: Above the stomach the Gullet is dilated into a kind of Craw, the interiour surface whereof is granulated with certain papillary glandules. The Throat is vast, loose, and dilatable. The guts large, especially towards the stomach: The stomach less fleshy and musculous than in granivorous birds.

* *Internodia*; *i.e.* bones between joynt and joynt.

The

The Bird described was shot on the River *Tame* in *Warwickshire*. I have seen four of them, 1. One at *Venice* in *Italy*: 2. One in *Yorkshire* at Dr. *Hewleys*, shot near *Cawood*: 3. A third in the Repository of the *Royal Society*: 4. A fourth in the house of my honoured friend Mr. *Richard Darley* in *London*, taken in the Isle of *Jarsey*. They differ something one from another in colours. For some of them have a ring about their necks, their Back, Neck and Head blacker, and painted with little white lines: Others want the ring, and have the upper side of their bodies more ash-coloured or grey, varied with white specks, and not lines. Perchance these are the Hens, those the Cocks.

That which *Clusius* described was bigger than a tame *Goose*, or at least equal to it. For from the Neck, where it joyns to the Breast, to the Rump it was two foot long. The compass of the body round was more than two foot. The Wings were fourteen inches long: The Tail scarce three: The Tongue almost three: The Bill more than four: The Neck near eight, and somewhat more in compass: The Head short, three inches broad: The Legs somewhat longer than three inches: The Feet four inches wide. So far *Clusius*, Of that which Mr. *Willughby* described at *Venice* the measures were as followeth: The weight thirty six ounces: The length from Bill to Claws thirty one inches; from Bill to Tail twenty eight. The Bill from the tip to the angles of the mouth was almost three inches long: The Tail two: The second bone of the Leg four and a quarter; the third two and an half; the outmost fore-toe three inches and an half. The Tongue long, sharp, having a transverse bed of asperities not far from the bottom, beneath which it is toothed on each side, as this figure represents. In the Palate, on each side the fissure, are five rows of prickles or asperities. The blind guts were three inches and an half long. Hence it manifestly appears, that the bird described by *Clusius* was bigger than ours. But perchance *Clusius* his was a Cock, ours a Hen. For those I saw at Dr. *Hewleys* and Mr. *Darleys* were nothing at all less than that of *Clusius*, sent him by *Hoierus*. But what *Hoier* writes of them, that they cannot fly at all, is a mistake; for though they never breed in *England*, yet in hard Winters they come over hither. I scarce believe they swim so far. Whence it is manifest, that they not only flie, but make great flights.

§. II.

* *Gesners greatest Doucker*: Colymbus maximus Gesneri.

IN the Lake of *Constance* I hear there is taken, though but seldom, a certain bird congenerous to the aforesaid, but bigger than a *Goose*, called *Fluder*, from its uncouth fluttering motion on the surface of the water, for that it can neither fly well, nor walk conveniently, unless it leans both upon Feet and Wings, as do also the other *Douckers*, by reason of the position of the Legs so turned backwards: That it hath a long, sharp Bill: A loud, shrill cry, of a singular kind: That it dives exceeding deep, so that it is sometimes taken twenty yards deep under water, *viz.* with a Net, or an Iron-hook baited with a fish: that they are commonly sold for two drachms and an half of silver a piece.

Leonard Baltner, a Fisherman of *Strasburgh*, describes this bird thus. In bigness it equals a *Goose*: Its length from the point of the Bill to the end of the Toes is one *Strasburgh* yard and an half. Its Bill from the point to the Eyes is five inches long: The Legs from the Claws to the feathers (that is the bare part) ten inches: The space of the Wings extended two yards and a quarter. The Stomach small: It feeds upon fish: The Bill sharp: The Feet broad, the toes web'd together. The upper side of the body is cinereous and black, the under-side white. The Tail three inches long. It dives very far, a Pistol-shot before it rises again. Its flesh is commended for good meat, and is of no unpleasant taste.

This Bird if it be different from the above described, is I confess hitherto to me unknown. Mr. *Johnson*, in his Papers sent us, writes, that he hath seen a bird of this kind without any spots in its Back or Wings, but yet thinks it not to differ specifically, but accidentally.

§. III.

* Wormius *his Northern Doucker, called,* Lumme.

IT is common among the *Norwegians* and *Iſlanders*, who in their own Country Language call it * *Lumme*. *Carolus Cluſius* mentions it in his *Auctarium*, pag. 367. It is an elegant bird, of the bigneſs of a *Duck*, with a black, ſharp Bill, two inches long. Its Head and Neck are covered with grey [cinereous] feathers, ending in a ſharp point, as if it had a Monks hood on its Back. Its Back and Wings are black, ſprinkled over with ſquare ſpots of white, which yet are bigger on the Back than the Wings. Under the Neck is a ſquare oblong black ſpot like to a ſhield, five inches long, and two broad, compaſſed on all ſides with feathers variegated of black and white as with a * Girdle. The whole Belly and lower parts of the Wings are white. The Legs are ſtretcht forth beſide the Tail [as if they grew out of the Vent] fitted not ſo much for walking as for ſwimming, not ſlender, but flat and broad. Each foot hath three Toes, that are black, and joyned together with black membranes, armed with ſharp and crooked Claws. The Thighs are alſo hid in the Belly. It is of the *Mergi* [Diver] or rather *Colymbi* [Doucker] kind. In diving it can hold its breath a long time, and no bird can plunge under water more nimbly and ſpeedily than it, as they experience who ſhoot them. For ſo ſoon as the powder flaſhes, it preſently ducks under water, before the bullet can come at it. It builds its Neſt ſo near the water, that it can, if need be, ſpeedily caſt it ſelf into it: But when it betakes it ſelf again to its Neſt, faſtning its Bill into the earth, it hangs its whole weight upon it, till it raiſes up its body, and ſo by degrees reaches its Neſt. It perceives before by a peculiar natural inſtinct when there are about to fall great ſhowers and ſhots of rain, and fearing leſt the flouds ſhould deſtroy its Neſt and Young, its makes a querulous noiſe and cry: On the contrary, when it preſages fair weather, it expreſſes its joy by chearful acclamations, and another more pleaſant note. It lays yearly three or four Eggs as big as *Geeſe* Eggs, of a * green colour, and ſpotted. They ſay, that at ſet times of the year they depart into hotter Regions, and return not until the Spring be well come on. Whence they think it ominous for any one to hear the cry of this bird firſt faſting. The *Norwegians* think it * a ſin to kill or diſturb this Bird, which they account holy. They ſometimes catch it in their Neſts againſt their wills, and ſometimes ſhoot it with Guns. The *Iſlanders* becauſe they eat it, take it either with a ſnare, or with an angle-line. They faſten two ſtakes at the entrance of the Neſt, upon which they hang, and ſo accommodate the Snare, that the Bird going to her Neſt may thruſt her head into it. Or they croſs the Pool where ſhe frequents at its narroweſt part with a fiſhing line, ſo that one on each ſide holds it, raking therewith the ſurface of the water, till the bird fearing ſome danger towards dives down to the bottom; then obſerving the place where ſhe is riſing up again by the circles there made in the water, thither they direct and there hold a ſnare faſtned to the line, that coming up out of the water, ſhe may put her head into it, and ſo be caught by the Neck.

Its skin is uſed to defend the Head and Breaſt from the injury of cold, and preferred before a *Swans*. This Bird *Beſler* hath figured in his *Gazophylacium* by this title. A ſingular kind of exotic *Water-Swallow*. But it hath nothing almoſt common with a *Swallow*.

* I ſuppoſe our Engliſh name *Loon* is borrowed of them.

* *Zona*, a border or fringe.

* *Praſini, i.e.* a leek colour.

* *Nefas.*

§. IV.

* *The ſmall black and white Diver with a ſhort, ſharp-pointed Bill.*

THe Picture of this Bird was communicated by that worthy perſon Sir *Thomas Brown*. It hath a ſhort Bill, a little bending at the end, [both Mandibles.] The top of the Head, the Back, Wings, and in general the whole upper part is black, excepting a tranſverſe line of white in the Wings. The Chin, Throat, Breaſt, as far as the middle of the Belly, and ſides of the Tail white: The Tail ſhort: The Legs of a ſordid green. The Toes web'd together. The Picture doth not ſhew any hind-toe. This Bird (ſaith Sir *Thomas*) is not uſual with us; I have met with but two of them, brought me by a coaſter, who could give it no name.

SECTION

SECTION VI.

Of Sea-Gulls, *called in Latine,* Lari.

Chap. I.

Of Gulls in general.

Gulls are a whole-footed fowl, with an indifferent long, narrow, sharp-pointed Bill, *a little crooked at the end; oblong Nosthrils; long and strong Wings: short Legs, small Feet (for they do not swim much) a light body, but invested with many and thick-set feathers, a carrion carkass, the fat that is sticking to the skin, [as in other birds;] much upon the Wing, very clamorous, hungry, and *piscivorous.

* This is true especially of the greater Gulls.

* Feeding upon fish.

These we divide into two kinds, First, *The greater*, which have Tails composed of feathers of equal length, and an angular prominency or knob on the lower Chap of the Bill underneath, to strengthen it, that they may more strongly hold fishes. 2. *The lesser*, which have a forked Tail, and no * knob on the Bill. Both kinds may be divided into *pied* or *particoloured*, and *grey*, or *brown*.

* Or but a very small one.

Chap. II.

The greater Gulls with Tails of equal feathers.

And first such as are pied or particoloured of white and cinereous or black.

§. I.

The great black and white Gull: Larus ingens marinus Clusii.

This Bird, the biggest by much of all the *Gulls* we have hitherto seen, weighed four pounds and twelve ounces. Its length from the tip of the Bill to the end of the Tail was twenty six inches: Its breadth from tip to tip of the Wings distended sixty seven. Its Bill was yellow, compressed sideways, more than three inches long, something hooked at the end, and like in figure to those of the rest of this kind. The lower Mandible underneath bunched out into a knob, marked on each side with a double spot, the lower red, the upper black. The edges of the Eye-lids round about were of a Saffron colour. The Head great, flat-crowned. Both Head, Neck, Breast, Belly, and Tail white. The middle of the Back and the Wings, excepting the tips of the quil-feathers, were black. Each Wing had about thirty four feathers in the first row, all black, with white tips. Its Tail was six inches long, made up of twelve snow-white feathers: Its Legs and Feet white: Its Claws black. It had a small back-toe; a wide Mouth, a long Tongue, a large Gullet. It preys upon fishes: For out of its stomach dissected we took a *Plaise* entire. It had a great Liver divided into two Lobes, with a Gall adhering: Short and small blind guts: A musculous Stomach, and an oblong Spleen.

In another bird of this kind, (which was I suppose a young one) both the top of the Head and the Neck were particoloured of black and white: The Back and Wings paler than in that described. I suppose that this is the very same bird which *Clusius* describes in the fifth Book of his *Exotics*, Chap. 9. under the title of a * *huge Sea-gull*, though his description be not so full and exact, as being taken only from a Picture.

* *Larus ingens marinus.*

This Bird we saw and described at *Chester*, being not rarely found on the Sea-coasts near that City. In the *Feroe Islands* it is called, The *Swarth-back*.

§. II.

§. II.

The Herring-Gull. Larus cinereus maximus.

IT is well nigh as big as a tame *Duck:* From tip of Bill to the end of the Toes twenty four or twenty five inches long, to the end of the Tail twenty two or twenty three: Between the terms of the Wings ſtretched out fifty, and in ſome fifty five inches broad. The weight was different in ſeveral birds, one weighing only twenty ſix ounces, another thirty, another thirty four. The Bill was yellow, two inches long, narrow, as in the reſt of this kind, but pretty deep: The lower Mandible not ſtreight, as in other birds, but the upper edges convex or arcuate; underneath it bunches out into an angle or knob, on the ſides of which is a large ſpot of red. The *Irides* of the Eyes were of a lovely yellow. The edges of the Eye-lids in ſome yellow, in ſome, (perchance theſe were Cocks) of a red-lead colour. The Legs in ſome yellow, bare of feathers for ſome ſpace above the knees, in others white, or of a pale fleſh-colour: The hind-toe ſmall: The Claws black: The inner edge of the middle Claw ſharp. Its Head, Neck, Rump, Tail, and whole under-ſide white: Its Back, the covert-feathers of its Wings, and the quil-feathers alſo, except the outmoſt five, of a dark aſh-colour. The two outmoſt quils were marked with a white ſpot near the tip, the outmoſt with a greater, the inner with a leſſer, but the very tips of both were black. The tips of the fifth and ſixth were dusky. All the reſt had white tips. [Theſe colours in ſeveral Birds vary ſomething: Yet in general the quil-feathers in all Birds of this ſort are particoloured of white, black and cinereous.] The Tail was about five inches long, not forked, made up of twelve feathers of equal length. The Wings when gathered up reached beyond the end of the Tail, and croſſed one another. It had a large Craw, a muſculous Stomach, in which were fiſh-bones. They ſay that is preys upon *Herrings*, whence it took the name *Herring-gull.* It lays Eggs as big as Hens Eggs, ſharp at one end, whitiſh, but ſpotted with a few black ſpots.

In the young ones the Back and Head are aſh-coloured, with black ſpots, the Bill black, but white at the tip.

This ſort, though it be very common with us, yet hath it not hitherto, that I know of, been deſcribed.

§. III.

The common Sea-Mall: Larus cinereus minor.

THat which I deſcribed was a Hen-bird. It weighed a full pound of ſixteen ounces: It was from the beginning of the Bill to the end of the Toes fifteen inches and an half long, to the end of the Tail ſixteen and an half. The tips of the Wings extended were forty one inches diſtant from each other. It is ſomething leſs than the greater *Gull* deſcribed by *Aldrovand*; like to the *Herring-Gull*, but much leſs. Its Bill was like to thoſe of the reſt of this kind, narrow, but deep, ſharp-pointed, of a whitiſh colour, but yellow toward the tip. The knob under the lower Chap ſmall, and ſcarce conſpicuous, the upper Chap ſomething hooked or bending at the point. The Tongue cloven: The Noſthrils oblong. The Eyes were great, and furniſhed with membranes for nictation; the *Irides* of a pale hazel-colour: The Ears of a mean ſize: The Feet of a pale green: The Claws black; that of the middle Toe ſharp on the inner ſide: The back-toe very ſmall, yet armed with a Claw. The membranes connecting the Toes reached as far as the Claws. The Head and upper part of the Neck were clouded with brown ſpots, the nether part white: The Back aſh-coloured, but the feathers covering the Tail white. The Throat and whole under-ſide of the body was as white as ſnow: The Tail alſo purely white. The Shoulders and upper covert-feathers of the Wings aſh-coloured, the coverts of the under-ſide white.

In each Wing were about thirty quil-feathers; the firſt of which at the tip in the inner Web had a black ſpot, and on the outer edge a black line, ſcarce appearing, then followed a white bar about two inches broad, the reſt of the feathers to the bottom being black. The tip of the ſecond was white: Under the white a croſs bar of black, half an inch broad, beneath that a white bar of an inch breadth, the reſt of the

feather to the bottom being black, but the very bottom ash-coloured. The tip also of the third was white; from the tip the upper half of the feather was black, the lower ash-coloured. The three next had also white tips, but the black part was still shorter and shorter, or narrower and narrower in the following than the foregoing feathers, till in the sixth it became scarce a quarter of an inch broad. All the rest of the quils were ash-coloured, with white tips. The Tail was six inches long, not forked, made up of twelve feathers.

* Sweet-bread.

The Liver was large, divided into two Lobes: The Gall yellow: The * *Pancreas* great: The muscles of the Gizzard not so thick and strong as in granivorous birds; within which we found grass and Beetles. It is a gregarious bird, frequenting Meadows, and the banks of Lakes. That which we described we shot on the bank of the Lake of *Bala* in *Merioneth-shire* in *Wales*, commonly called *Pimble-mear*, through which the River *Dee*, on which *Chester* is built, runs, and they say mixes not its waters with those of the Lake.

It differs from the *Herring-gull*, 1. In that it is less. 2. In the colour of the Bill: From *Bellonius* his ash-coloured *Gull*, 1. In that it is bigger: 2. That it hath a back-toe armed with a Claw.

§. IV.

* *Baltners great ash-coloured Sea-Mew, perchance our Pewit.*

THe whole body (at least on the upper side is of a dark ash-colour or bluish, as are also the Tail and lesser quil-feathers, for the greater are black. The crown or top of the Head is black, with an obscure tincture of green (if the * Picture deceive us not.) The Bill streight, of a red-lead colour: The Legs and Feet black: The Wings very long, and when gathered up reaching beyond the end of the Tail. The length of the Bird from the tip of the Bill to the end of the Tail was a † *Strasburgh* Yard or more: The breadth from tip to tip of the Wings extended two yards. The Leg so far as it was bare [from the feathers to the end of the Claws] a quarter of a yard long: The Guts seven quarters. I suspect this Bird was no other than the *Cepphus* of *Turner* and *Gesner*, that is, our *Pewit*: But then the Legs are painted of a wrong colour; for in the *Pewit* they are red: so is also the Tail.

* Sure the Picture is false in this, for nothing of green appears in any Gull we ever yet saw.

† A *Strasburgh* yard is not much above half a yard English.

§. V.

Bellonius his ash-coloured Gull, called in Cornwal, Tarrock.

IN bigness it exceeds not a common *Pigeon*, neither is it much different in the shape of its body, save that its Head is bigger. It weighs seven ounces: Its length from the point of the Bill to the end of the Tail is almost sixteen inches. Its Wings extended were by measure full thirty six inches. Its Tail almost five inches long, not forcipate, consisting of twelve feathers. The under-side of the body was all purely white: As for the upper side, the Head and Neck were white, save that at the Ears on each side was a black spot: The lower part of the Neck was black: The middle of the Back and the Shoulders ash-coloured: The Tail white, only the tips of the feathers for about an inch black: Yet the outmost feather on each side was all white. The four outmost quil-feathers were above half way black: The two next to these had only black tips, being else white. The seventh had only a black spot near the tip: All the rest were white: In brief, the ridge, upper or fore-part of the Wing extended was all along black; which colour near the Back was dilated into a large and broad stroak, [or spot.] The Bill was more than an inch long, something arcuate or bending downwards, especially toward the point, which is sharp, of a black colour. The lower Mandible, not far from the tip, bunched out into an angle underneath, as in the rest of this kind. Its Legs and Feet were of ash or livid colour: Its Claws black. It hath some rudiment of a hind-toe rather than a perfect toe; for it is only a carneous knob without any Claw. The Legs also are destitute of feathers for about the length of an inch above the knees.

* Or *Adams* Apple.

The colour of the Mouth within and the Tongue is like that of an * *Assyrian* Apple, as *Bellonius* hath observed. The Tail is five inches long, made up of twelve almost equal feathers: The number of quil-feathers in each Wing twenty eight, or twenty nine.

This

This Bird is easily known and distinguished from all others of this kind, that we have hitherto observed by its wanting the back-toe. It is common on our Sea-coasts.

§. VI.

The Pewit or Black-cap, called in some places, The Sea-Crow and Mire-Crow: Larus cinereus, Ornithologi * *Aldrov. Also the* Larus cinereus tertius, *Aldrov. The* Cepphus *of Turner and Gesner.* * Tom. 3. pag. 73.

IT is about the bigness of a tame *Pigeon*. That which we described weighed about ten ounces: Its length from tip of Bill to end of Tail was fifteen inches: Its breadth thirty seven. Its Bill was of a sanguine colour, bending something downwards, from the point to the angles of the Mouth two inches long. The Palate was of a red-lead colour: The Eyes hazel-coloured, The edges of the Eye-lids red: Both upper and lower Eye-lids towards the hind-part of the Head were compassed with white feathers. The Head and Throat were black, but dilute. The middle of the Back ash-coloured: The Neck, Tail, Breast, and Belly white: The number of quil-feathers in each Wing twenty nine: The tip and extreme edges of the first were white, the rest of the feather black; the following feathers to the tenth had black tips, yet with some diversity in several birds; else the whole Wings were ash-coloured. The Tail all snow-white, of about five inches length, not forked, consisting of twelve feathers. The Wings gathered up reach beyond the end of the Tail. The Legs were of a dark sanguine colour: The back-toe small: The Claws little, and black. The Males differ little from the Females in colour or outward appearance. Near *Gravesend* a huge number of these birds frequent the River *Thames*.

We saw and described at *Chester* a Bird of this kind, which there they called the *Sea-Crow*, which differed from the precedent in some accidents of less moment, *viz.* The crown or top of its Head only was black, not its Throat. Each Wing had twenty eight quil-feathers, the outmost of which had its tip and exteriour edge black; the three next in order had their outer Webs white, their tips and interiour edges black; the three succeeding had only their tips black. [The third, fourth, and fifth, and in some also the second feathers have a spot of white on their tips.] Of this kind also are those birds which yearly build and breed at *Norbury* in *Staffordshire*, in an Island in the middle of a great Pool, in the Grounds of Mr. *Skrimshew*, distant at least thirty miles from the Sea. About the beginning of *March* hither they come; about the end of *April* they build. They lay three, four, or five Eggs, of a dirty green colour, spotted with dark brown, two inches long, of an ounce and half weight, blunter at one end. The first Down of the Young is ash-coloured, and spotted with black: The first feathers on the Back after they are fledg'd are black. When the Young are almost come to their full growth, those entrusted by the Lord of the soil drive them from off the Island through the Pool into Nets set on the banks to take them. When they have taken them they feed them with the entrails of beasts, and when they are fat sell them for four pence or five pence apiece. They take yearly about a thousand two hundred young ones: Whence may be computed what profit the Lord makes of them. About the end of *July* they all fly away and leave the Island.

Some say, that the crowns of those Birds are black only in Spring and Summer. A certain friend of mine (saith *Aldrovand*) did sometime write to me from *Comachio*, that the feathers on their Heads grow black in *March*, and that that blackness continues for three months, *viz.* so long as they are breeding and rearing their Young, and that the other nine months of the year they are white. Which thing if it be true (for to me indeed it seems not probable) no wonder that of one and the same *Species* of Bird described at several times of the year there should be three or four made. *Aldrovandus* writes, that the description of *Gesner* agrees in other things to his ash-coloured *Gull*, disagreeing only in the colour of its Bill and Feet. But perhaps (saith he) the colour of the Bill and Feet may vary in birds of the same species, which I will not easily grant, unless they differ in Age or Sex.

§. VII.

** The greater white Gull of Bellonius, which we judge not to be ſpecifically different from our Pewit.*

IT is, ſaith he, leſſer than the aſh-coloured *Mew*, and a veryhandſom bird, as fair to ſee to as a white *Pigeon*, though it ſeem to be bigger-bodied; and yet being ſtript of its feathers it hath far leſs fleſh. It is as white as ſnow, yet * under the Wings it hath ſomewhat of aſh-colour. The Eyes are great, and encompaſſed with a black circle. Near the region of the Ears on both ſides is a black ſpot. It is well winged, for the Wings exceed the Tail in length. Its Legs and Bill are red, which they are not in the aſh-coloured *Gull*. It ſtands ſtreight upon its Legs, carrying the hinder part of the body more elevated, ſo that the lower parts ſeem to be bent like a bow. The Bill is round and ſharp-pointed, the ends of the Wings black. This Bird in moſt things approaches to our *Pewit* laſt deſcribed, it differs in the colour of the crown, and in the black ſpots about the Ears. *Aldrovandus* makes the leſſer white *Larus* of *Bellonius* to be the ſame with the *Cepphus* of *Turner*, that is, our *Pewit*. I rather think it to be the *Sea-Swallow*, becauſe he writes, that it frequents fenny places, and the banks of Rivers.

* I ſuppoſe it ſhould have been upon the Wings.

Chap. II.

Great brown and grey Gulls.

§. I.

Our Catarracta, *I ſuppoſe the Corniſh Gannet.* Skua Hoier, *Cluſ.*

THE skin of this ſtuft was ſent us by our learned and worthy friend Dr. *Walter Needham*, who found it hung up in a certain Gentlemans Hall. The Bird it ſelf living, or newly kill'd we have not as yet ſeen at hand. It is of the biggeſt of this kind, equal to, or bigger than a tame *Duck*. Its Bill is ſtronger, bigger, and ſhorter than in other great *Gulls*, black, hooked at the end, and ſeemed to be covered with a skin from the baſe to the Noſthrils, as in Land-birds of prey. Its Legs and Feet were black: Its Toes armed with ſtrong, crooked Claws, ſuch as we never before obſerved in any whole-footed Fowl. The colour of the Back is a ruſty cinereous or brown, like that of a *Buzzards*: Its Belly and underſide paler. The greater quil-feathers of the Wings are black: The Tail alſo is black, about ſeven inches long, made up of twelve feathers, of which the two middlemoſt are ſomewhat longer than the reſt. The bottoms of the feathers as well of the Tail as Wing-quils are white. The length of the Bill from the tip to the angles of the Mouth was no more than two inches and an half. The angular prominence on the lower Chap is ſmall and ſcarce conſpicuous.

Hapning to read over the deſcription of *Hoiers Skua* in the *Auctarium* of *Cluſius* his Exotics, pag. 367. I find it exactly to agree with ours, ſo that I do not at all doubt but this Bird is the *Skua* of *Hoier*. *Cluſius* his deſcription being more full than ours I ſhall here ſubjoyn.

The Bird ſent me by *Hoier* was (ſaith he) of the bigneſs of a great *Gull*, from the bottom of the Neck to the Rump nine inches long. The compaſs of its body, meaſuring under its Wings, was ſixteen inches. The Neck from the crown of the Head to the Back was ſeven inches long. The Head not very great, nor the Bill flat, but rather long and narrow, on the part next the Head rugged and rough, towards the point ſmooth, black, and crooked, almoſt like thoſe of rapacious birds or *Gulls*, not exceeding the length of two inches. The Wings were almoſt ſeventeen inches long, reaching ſomething further than the end of the Tail. The four greater quil-feathers of the Wings were black, not white at the tip, as *Hoier* wrote, unleſs perchance he had obſerved that mark in other birds of this kind. From the quill or naked part I found them to be white half way up the feather, as were alſo the three greater and uppermoſt Tail-feathers below where they were inſerted into the Rump, the upper part

part being black as in the quil-feathers. As for the reſt of the feathers inveſting the body they were of a colour between black and cinereous, but the black predominant, and did nearly reſemble the feathers of a bald *Buzzard* or *Kite*. The Legs were placed backward, in the hindmoſt part of the body, at in moſt Water-fowl, above the Knee they were very ſhort, below the Knee down to the Foot almoſt three inches long. The Feet were flat, having three Toes and a ſhort Heel. The outmoſt Toe (next in length to the middlemoſt) conſiſted of four joynts; the middle (which was the longeſt) of three; the inmoſt (which was the ſhorteſt) of two; and the heel or back-toe of one. All ending in ſharp, crooked Claws, and joyned together by a black membrane or cartilage to the very Claws.

The characteriſtic notes of this ſpecies are, 1. The thickneſs and ſhortneſs of its Bill. 2. The uniform black colour of its Tail [as far as it appears beyond the incumbent feathers.] 3. The bigneſs and crookedneſs of its Talons.

Hoier writes, that it preys not only upon fiſh, but on all kinds of ſmall birds.

The *Corniſh Gannet* (as they told us) doth conſtantly accompany the ſholes of *Pilchards*, ſtill hovering over them in the Air. It purſues and ſtrikes at theſe fiſh with that violence that they catcht it with a ſtrange artifice. They faſten a Pilchard to a board, which they fix a little under water. The *Gannet* eſpying the *Pilchard*, caſts himſelf down from on high upon it with that vehemence, that he ſtrikes his Bill clear through the board, and daſhes out his brains againſt it, and ſo comes to be taken. We ſaw many of theſe *Gannets* flying, but could not kill one. They ſeem to be very ſtrong birds, long-winged, and fly ſwiftly.

§. II.

* *Aldrovandus his* Catarracta.

IT comes near to the bird laſt deſcribed. It (ſaith he) exactly reſembles a *Goſhawk*, [to which our Bird alſo anſwers very well, both in bigneſs and figure, and in the colour of the upper ſide of the body,] ſo that you can ſcarce diſtinguiſh them; for on the upper ſide, like that, it is variegated with brown, white and yellow mingled; on the under ſide it is all white, ſpotted with brown, as the Picture ſhews. *Ariſtotle* alſo writes, that it is leſs than a *Hawk*, and that it hath a large and broad Throat or Gullet; which laſt note agrees exactly to my bird, though indeed other *Gulls* alſo have a wide throat as well as this. But I think *Ariſtotle* likened it to a *Hawk*, not only for its bigneſs, but becauſe it was alike ſpotted, and eſpecially becauſe it preys after the manner of a *Hawk*; and for that purpoſe is endued with a Bill for the bigneſs of its body very great and ſtrong, ſharp-pointed alſo, and the upper Chap more than ordinarily hooked. It is an inch thick, and of a deep black. The Neck alſo is pretty long: The Head leſſer than in *Gulls*. The Wings in length are even with the Tail. The Tail is a Palm long, and black: The Hips covered with feathers to the Knees, which in other *Gulls* are not ſo, but bare a little higher. Its Legs, Feet, and intervening membranes cinereous: The Claws black, crooked, and ſmall.

It differs from our *Catarracta* chiefly, 1. In the colour of the underſide of the body: 2. In the colour of the Feet: 3. In the ſmalneſs of the Claws. But theſe things notwithſtanding, perchance it may be the ſame. For *Aldrovandus* (as I gather from his words) took his deſcription from a Picture. But Painters are not wont to be very exact either in expreſſing of the colours, or delineating the parts.

This deſcription alſo doth in many things agree to that *Gull* which we ſhall next deſcribe under the title of the *Corniſh Wagel*.

§. III.

The great grey Gull, which we take to be the Corniſh Wagel, *called at Venice,* Martinazzo, *at Amſterdam, the Burgomaſter of Groenland:* An Larus albo-cinereus torque cinereo *of Aldrov?*

IT weighed twenty two ounces; being ſtretcht out in length from the point of the Bill to the end of the Feet twenty one inches and an half, to the end of the Tail twenty one: its breadth was fifty three inches. Its colour as well in the lower as upper ſide was grey, ſuch as is ſeen in the back of a wild *Duck*, or a *Curlew*, being mixed of whitiſh and brown. [Mr. *Willughby* gives alſo ſome mixture of ferrugineous both to

to the brown, and to the ash-colour in the Wings and Back.] The feathers of the Back are black in the middle, and ash-coloured about the edges. The Rump-feathers incumbent on the Tail are for the most part white, only spotted in the middle with brown. The Chin is white. Each Wing hath thirty quil-feathers, all black. The tips of the lesser rows of Wing-feathers in some are black, in some cinereous. The Tail is six inches and an half long, consisting of a dozen feathers, the outmost tips of which are white, then succeeds a cross bed or bar of black, of about two inches broad: The lower part is varied with transverse bars of white and black, the white also spotted with black.

The Bill is almost three inches long, all black, the upper Chap bending a little downward, and as it were hooked: The lower between the angle and the tip underneath bunches out into a knob. The Nosthrils oblong: The Eyes grey: The Neck short: The Head great, which in walking or standing still it always draws down to its shoulders, as do also other *Gulls*, so that one would think they had no necks, of a whitish grey colour. Its Legs and Feet are white, or white with a little duskishness: The hind-toe small: The Claws black, that of the middle toe sharp on the inside.

It hath a huge Liver, divided in two: a Gall annexed to the right Lobe. The Stomach more musculous than in carnivorous birds: The blind guts short and little, yet turgid, and full of Excrement.

The *Cornish* men related to us for a certain truth, that this Bird is wont to persecute and terrifie the *Sea-Swallows*, and other small *Gulls* so long, till they mute for fear; and then catches their excrements before they fall into the water, and greedily devours them as a great dainty: This some of them affirmed themselves to have seen.

The *Larus albo-cinereus torque cinereo* of *Aldrovand* is very like to, if not the same with this. On the Breast and Belly it is of a colour from white inclining to cinereous, as also on the upper side of the Wings. It hath a very great Head, encompassed with a kind of ash-coloured wreath, which yet reaches not to the Neck behind, but turns up to the middle of the crown. Along the Neck and Back it declines from grey to blue. The covert-feathers of the Wings are of a colour mixt of white and cinereous. The longer quil-feathers are black, reaching an inch further than the Tail. The Tail is ash-coloured, and black at the end. The Legs, Bill, and Eyes red, yet the tip of the Bill black.

§. IV.

The Winter-Mew, called in Cambridge-shire the Coddy-moddy. Larus fuscus sive Hybernus.

IT weighs well nigh seventeen ounces. In length from the tip of the Bill to the end of the Claws or Tail it was by measure eighteen inches and better. The extremes of the Wings extended were forty five inches distant. The lower part of the Throat about the Craw is a little dusky, else the under-side of the body is all white. The Head is white, spotted with brown: The Neck brown: The middle of the Back cinereous. The long scapular feathers varied with brown spots. The Rump is white. The Tail more than five inches long, made up of twelve feathers. The extreme tips of the Tail-feathers are white; then succeeds a black bar an inch and an half broad, the rest of the Tail being white. The outmost quil-feather of the Wing is of a dark brown or black colour; the second ash-coloured on the inner side: In the following the black part is lessened by degrees, till in the sixth and seventh the tips only remain black. The tips of the eighth and all the following are white. The eleventh feather is wholly cinereous, yet in the middle of the shaft, not far from the tip, darker: In the two next is a brown spot. The succeeding have also their exteriour edges black. In the twenty third the blackness disappears again, so that the twenty fourth and twenty fifth are wholly cinereous. Of the last or those next the body the one half is black. The lesser covert-feathers in the upper part of the Wing are of a mixt colour of cinereous and black: Those on the underside of the Wing are white.

The Bill is more than two inches long; from the Nosthrils to the end whitish: The upper Mandible longer and crooked, the nether underneath bunches out into an angle or knob, as in other great *Gulls*: The Tongue white, cloven, reaching to the end of the Bill: The Eyes hazel-coloured, and furnished with nictating membranes: The Ears great: The Legs and Feet of a dusky or greenish white: The back-toe little, armed

armed with a ſmall Claw: the inner fore-toe the leaſt: The Claws black; that of the middle Toe ſharp on the inner ſide.

The Guts were long [twenty eight inches] having many ſpiral revolutions: The ſtomach muſculous: The Liver divided into two Lobes: The Gall-bladder large. It frequents moiſt Meadows, Fens, and Rivers, and ſometimes plowed Lands too many miles diſtant from the Sea.

This Bird in many things comes near to the *Larus major* of * *Aldrovand*, but differs from it in the colour of the Eyes, Bill, and Feet, the Bill and Feet in *Aldrovands* bird being yellow. But the deſcription of this greater *Gull* [*Larus major*] in *Aldrovand* anſwers exactly to that bird which *Leonard Baltner* hath painted under the title of *Ein Winder-Meb:* wherefore we will here ſubjoyn his deſcription. * *Ornithol.* Book 19. Chap. 4.

§. V.

* *The* Larus major [*Greater Gull*] *of Aldrovand, called by Leonard Baltner,* Ein Winder-Meb, *that is, A winter Mew.*

FRom the point of the Bill to the end of the Wings it was almoſt two ſpans long: Had a very great and thick Head, particoloured of white and cinereous: Alſo a large full Breaſt of the ſame colour, but more dilute, eſpecially towards the lower belly: A thick yellowiſh Bill, black at the tip, and very ſharp, in the upper Chap whereof are long Noſthrils. It gapes very wide. The Pupil of the Eye is black; the *Iris* yellow, or ſhining like gold; the yellow is encompaſſed with a circle of black, the black with a white, and laſtly, the white with a grey or aſh-colour. The Wings are of a colour mingled of white, * grey, and brown, or cheſnut, to the quils, which on the outſide are dusky or blackiſh, on the inſide for the moſt part cinereous, and † exceed the Tail by an hand-breadth: The longeſt of them are more than a ſpan. The Tail it ſelf is four inches and an half long and better, all cinereous, except a croſs bar or border of black, near the end, of more than an inch broad. The Thighs are cinereous, and near the Legs bare of feathers: The Legs of a good length, and ſlender, as became a light bird, of a pale yellow colour. The Feet, Toes, and intervening membranes alſo yellow: The Claws black, ſhort and crooked: The back-toe conſpicuous enough, armed alſo with a claw. * Cinereous. † Reach beyond.

§. VI.

* *Baltners great grey Sea-Mew, the ſame perchance with ours deſcribed in the third place.*

FRom the point of the Bill to the end of the Wings it was 1 ⅛ of a *Strasburgh* Ell long: Between the tips of the Wings extended two Ells broad. It weighed ſcarce a pound. The length of its foot from the feathers to the Claws was a quarter of a yard: Of its guts ſeven quarters. Its Bill and Feet were brown [*braunlecht.*] The Picture repreſents them of a dark purple. The colour of the whole body was grey [*grau,*] I take this to be no other than the great grey *Gull* deſcribed in the third place, but then the colour of the Legs is miſtaken.

§. VII.

* *Aldrovands* Cepphus.

IT's not like a *Gull* in any thing ſave the Bill and ſhape of the Legs and Feet, for in other things it rather reſembles a *Duck.* From the Bill to the end of the Tail it is a ſpan and half long, and becauſe it hath abundance of feathers it ſeems to be corpulent, whereas the matter is nothing ſo. The Bill is of a moderate both length and thickneſs, of a horn colour, on the ſides of the Mandibles red, at the tip (which is hooked) black. The Eyes little, for the moſt part red, encompaſſed with a white circle. The Head (which is ſomething leſs than in *Gulls*) together with the Neck, Breaſt, Belly, Thighs, and Rump are variegated with white and * brown ſpots, with a mixture of bay and yellow. The Wings are black, the ends of the feathers being yellowiſh. The greater feathers of the Tail are alſo black: The Legs and ſhanks greeniſh; the Feet and membrane connecting the Toes dusky. * Dusky.

This

This Bird is as yet to us unknown, and therefore we have no more to add concerning it. What the Ancients have left us concerning the *Cepphus* see in *Aldrovand. Turner* thinks that bird which we call the *Pewit* to be the *Cepphus* of the Ancients, as we have already told the Reader.

§. VIII.

The brown Tern: Larus cinereus minor *Aldrov. called by Baltner*, Ein Keſſler.

IT is about half ſo big as *Bellonius* his aſh-coloured *Mew*, for it ſcarce exceeds a ſpan in length. On the Back and Wings it is of an aſh-colour, but far deeper than in that, inclining to a blue. The quil-feathers of the Wings are on the outſide cinereous, but on the inſide black; on both ſides at * the ends white. The Bill is ſlender [or ſmall] for the proportion of the body, a little bending and black. The crown of the head towards the hind-part black. The Feet, Legs and membranes uniting the Toes of a Saffron-colour: The Claws black. All the other parts purely white. This is the bird which *Leon. Baltner* deſcribes and paints under the title of *Ein Keſſler*, of the bigneſs of a *Blackbird*, with long Wings, ſhort legs, a ſmall Head, and black for the moſt part; the Back and quills of the Wings brown, the covert-feathers cinereous, yellow or Saffron-coloured Feet; a black, ſharp Bill, moderately bending. It flies up and down continually over the water in purſuit of Gnats and other water-Inſects. It feeds alſo upon fiſh. This is alſo the *brown Tern* of Mr. *Johnſon*, (if I be not miſtaken) whoſe underſide is all white, the upper brown: The Wings partly brown, partly aſh-coloured: The Head black: The Tail not forked. The Birds of this kind are gregarious, flying in companies.

* The word *extremitatibus*, which may as well ſignifie edges or extremities.

§. IX.

* *Marggraves Braſilian Gull, called* Guaca-guacu, Gaviota *of the Portugheſe.*

IT is of the bigneſs of a common Hen; hath a ſtreight, long, thick, yellow Bill. Its Head above is covered with black feathers, as are alſo the hinder moieties of the Wings and Tail. The Throat, whole Neck, Breaſt, and lower Belly, and fore-part of the Wings are white. It lays its Eggs in the ſand, which are like to a Hens for figure, bigneſs, and colour: They are indeed well taſted, but the fleſh of the Bird is nothing worth.

Chap. III.

The leſſer Gulls with forked Tails.

§. I.

The Sea-Swallow: Hirundo marina, Sterna *of Turner*, Speurer *of Baltner.*

THE weight of this Bird was near five ounces: Its length from Bill to Tail ſixteen inches: its breadth from Wings end to Wings end thirty two inches.

It is a ſmall bird, ſlender, and long-bodied: Hath a forked Tail, whence it got the name of a *Swallow:* A black crown, the black being terminated by a line drawn from the Noſthrils through the Eyes to the Neck, ſo that above the Eyes the Head is black, under the Eyes white. The Cheeks, Chin, lower Belly, underſide of the Wings are all white: The Breaſt hath ſomething of cinereous mingled. The Rump is white: The Back and upper ſide of the Wings are of a dark aſh-colour. Each Wing hath twenty nine quils; the outmoſt ten whereof have their outer Webs running out into ſharp points, the reſt their inner. The exteriour Web of the firſt or outmoſt feather is black, the ſhaft white, and of a notable thickneſs: The tips of the following till the tenth, and the inſide of all white, and moreover half the interiour Web of the four or five foremoſt. The Tail is compoſed of twelve feathers, the outmoſt being half a foot long and better, and having their exteriour Webs from cinereous inclining to black: The two middlemoſt ſcarce three inches long

long and white: The rest having their outer Webs cinereous, their inner white.

Its Bill is long, almost streight, black at the tip, else red. Its mouth is red within: Its Tongue sharp: Its Legs red; the back-toe small: The fore-toes web'd together as far as the very Claws. The craw was large, out of which we took a *Gudgeon*: The Gizzard full of fish-bones: The Guts twenty inches long: The blind guts very short.

These Birds flock together, and build and breed on Islands uninhabited near to the Sea-shores many together in the same quarter. In the Island of *Caldey*, adjacent to the Southern shore of *Wales*, they call them *Spurres*; [a name (as appears by *Baltner*) common to them with the *Germans* about *Strasburgh*,] and that little Islet where they build *Spurre* Island. In other places of *England* they are called *Scrays*, a name, I conceive, framed in imitation of their cry: For they are extraordinarily clamorous. In the Northern parts they call them *Terns*, whence *Turner* calls them in *Latine*, *Sternæ*, because they frequent Lakes and great Pools of water, which in the North of *England* are called *Tarns*.

They lay three or four Eggs, either upon the bare ground, or in a Nest made of Reeds. Their Eggs are like the great Gulls Eggs, though much less: The Young are also spotted with black like theirs. They fly up and down over the water, intent upon their prey, and when they espy a fish, they cast themselves down with wonderful swiftness into the Water, and catching it up, fly away with it in a trice. They frequent Rivers far remote from the Sea, as for example, the *Rhene* about *Strasburgh*, where they were taken, described and painted by *Leonard Baltner*, by the title of *Ein Speurer*, who tells us also that they build in gravelly and sandy places by the banks of the River; so that if it happen there be a floud in their breeding time, their Eggs are marred, and Nests destroyed.

This Bird for its long Wings, small Feet, forked Tail, continual flying, and finally, for the figure of its whole body, is commonly, and not undeservedly, called, the *Sea-Swallow*.

§. II.

The lesser Sea-Swallow: Larus Piscator *of Gesner and Aldrov.* Ein Fischerlin *of Baltner.*

Gesner describes this Bird thus. They say that it is white, with a black crown. It is lesser than the ash-coloured *Gull*, with a black head like the *Sterna*, Bill and Feet of a pale dusky colour: Of swift flight, and when it catches fish, plunging it self into the water, which the ash-coloured *Gull* doth not.

Leonard Baltner describes his *Fischerlin* after this manner. It is a very little kind of *Speurer*, that is, *Sea-Swallow*, even less than a *Blackbird*. It hath long ash-coloured feathers: Bill and Feet of a Saffron-colour: A black crown: The nether side of the body all white, in like manner the Tail. It preys upon small fishes, whence it had its name. Its guts are half a yard long. The Females are less than the Males. Their flesh is good to eat. The Picture represents the Tail forked, and the point of the Bill black: The greater quil-feathers of the Wings likewise black.

It differs from the greater *Sea-Swallow* chiefly in bigness, and the colour of the Bill and Feet.

Mr. *Johnson* thus briefly describes it. It hath the Wings, Tail, and swiftness of a *Swallow*: A red Bill; a black crown; brown Legs; a forked Tail six inches long. In the colour of the Legs he agrees with *Gesner*: but perchance the colour may vary with Age, or differ in the Sexes.

§. III.

The Scare-crow: Larus niger *Gesneri*; * *Aldrov.* Ein Brandvogel *or* Megvogel *of Baltner.* * Tom. 3. pag. 81.

This small *Gull* hath black Bill, Head, Neck, Breast, Belly, and Back, (as far as one can judge by the Picture) ash-coloured Wings, reaching beyond the Tail. The Legs have a light dash of red. About *Strasburgh* it is called *Megvogelin*, that is, the *May-fowl*, because (saith *Baltner*) it comes to them in the month of *May*. *Baltner* describes and paints it under the title of *Brand-vogel*. It is (saith he) of the bigness of a *Blackbird*; hath long Wings, small and short Legs and Feet, partly cloven, a black Bill, of which colour is also the whole body. They fly in flocks for the most

part, twenty or thirty together. They catch Gnats, and other water-Inſects. Their fleſh is good to eat.

This is (I ſuppoſe) the ſame with that which Mr. *Johnſon* ſaith, they in the North call the *Scare-Crow*; and thus briefly deſcribes. It cannot abide the preſence of men: Its Head, Neck, and Belly are black; its Wings aſh-coloured; its Tail a little forked: Its feet ſmall and red. The Male hath a white ſpot under his chin.

§. IV.

Our black cloven-footed Gull.

IT is leſs than the *Sea-Swallow:* In length from the tip of the Bill to the end of the Tail ten inches: in breadth from Wings end to Wings end twenty four. The Bill from the point to the angles of the mouth is an inch and half long, ſharp-pointed, and black: The Tongue ſharp, and ſlit at the end: The Head black: The back and upper ſurface of the Wings of a dark cinereous: The Throat and Breaſt black: But the feathers of the lower belly under the Tail pure white. The number of quils in each Wing twenty ſeven: The Tail forked, made up of twelve feathers, the outmoſt $3\frac{1}{8}$ inches long, the middlemoſt two and an half. The outmoſt on each ſide is all white, all the reſt aſh-coloured. The Legs are bare up to the middle of the ſecond joynt: The Feet ſmall, of a reddiſh black colour: The Claws black: The hind-toe little; the middle fore-toe the longeſt, and next to that the outmoſt. The membrane connecting the inmoſt and middle toes in the inmoſt is extended to the Claw, in the middle toe proceeds not beyond the firſt joynt; ſo the upper bone of the Toe is altogether free and looſe. That which joyns the outmoſt and middle Toes, though it begins in both from the very Claws, yet is it depreſſed in the middle, and as it were hollowed into the form of a Creſcent, whoſe horns are the Toes. The Claw of the middle toe on the inſide is thinned into an edge, Its cry is hardly diſtinguiſhable from that of the *Sea-Swallow*. It builds among the Reeds, and lays three or four Eggs, like to thoſe of other *Gulls*, of a ſordid green, ſpotted with black, compaſſed with a broad black girdle about the middle. The blind Guts, as in the reſt of this kind, are very ſhort. In the Stomach were *Beetles*, *Maggots*, &c.

This Bird comes very near to the black cloven-footed *Gull* of *Aldrovand:* But its Tail is forked, of which remarkable note he makes no mention, which ſure could not have eſcaped him, if it had been in the birds he deſcribed.

It frequents Rivers, Mears, and Plaſhes of Water far from the Sea.

§. V.

* *Aldrovands cloven-footed Gull, with longer Wings.*

THis Bird on the Wings and Breaſt is all aſh-coloured, hath very large Wings, exceeding the Tail three inches in length, and towards the end black. The Tail is ſhort, and cinereous: The part under the Tail white: The Toes are of a good length, and armed with notable Claws; the Legs ſhort; both black. The Eyes very black, as is the whole Head, and alſo the Neck, and the Bill beſide, which is pretty long, and a little crooked at the end.

§. VI.

* *The other cloven-footed Gull of Aldrovand, with ſhorter Wings.*

IT is almoſt of the ſame bigneſs with the precedent, but hath far ſhorter Wings, and on the contrary a much longer Tail. Its bigneſs is equal to that of a *Blackbird*; its colour cinereous; its Head black. Its length from the Head to the Rump is nine inches: The Tail is a full Palm [hand-breadth] long. The ridges of the Wings are white: The Bill black, ſlender, a little crooked. The feathers under the Tail are white. The Feet are reddiſh, ſmall, as in *Swallows*, It hath four Toes, with ſome rudiment of a membrane between them. The Claws are black, and ſmall, however crooked.

Theſe Birds (ſaith *Aldrovand*) becauſe they do in the ſhape of their bodies ſomething reſemble *Swallows*, are called by us *Rondini marini*.

§. VII.

§. VII.

Mr. Johnſons *ſmall cloven-footed Gull.*

IT is of the bigneſs of a *Blackbird*, or ſomething leſs. Its Bill is ſlender, ſtreight, ſharp-pointed, black, round, having no knob in the lower Mandible. The crown of a black or dark red. The ſides and under-ſide of the Neck are red: The Belly and whole nether ſide white: The Back and Wings brown, ſpotted with yellowiſh ſpots. In the Wings is a tranſverſe white line in the tips of the feathers. The Wings are long; the Tail ſhort. The Toes not web'd together, but bordered on each ſide with lateral membranes ſcalloped, and elegantly ſerrate: Whence when I firſt ſaw the skin of it ſtuft at Mr. *Johnſons* at *Brignal* in *Yorkſhire*, from the make of its Feet I judged to be of the *Coot*-kind. But afterwards being informed by Mr. *Johnſon* that it is much upon the wing, hath ſharp Wings, and cries like a ſmall Gull, differs alſo in the faſhion of the Bill, I changed my opinion, and think that it ought rather to be referred to the *Gulls*, to which I have ſubjoyned it.

SECTION VII.

Of Whole-footed Birds with broad Bills.

THeſe may be divided into the *Gooſe-kind*, and the *Duck-kind*. The marks of the *Gooſe-kind*, of which we ſhall firſt treat, are a bigger body: Large Wings; a long Neck; a large, and round-ended train: A white ring about the Rump: A rounder Back, not ſo flat and depreſſed as in the *Duck-kind*: A Bill thicker at the baſe, ſlenderer toward the tip, and not ſo flat and broad at the end as in *Ducks*: To which might be added ſhorter Legs.

MEMB. I.

The Gooſe-kind.

CHAP. I.

Of the Swan: De Cygno.

§. I.

The tame Swan: Cygnus manſuetus.

THis Bird is much the biggeſt of all whole-footed Water-fowl with broad Bills. An old one we made trial of weighed twenty pounds: From the tip of the Bill to the end of the Tail was fifty five inches long, to the end of the Feet fifty ſeven. The diſtance between the tips of the Wings extended was ſeven foot and eight inches.

The whole body is covered with a ſoft, delicate Plumage, in the old ones purely white, in the young ones grey. The quils of the greater Wing-feathers in this Bird are greater than in the *wild Swan*.

The Bill in the young ones of the firſt year is of a lead colour, having a round nail as it were at the tip, and a black line on each ſide from the Noſthrils to the Head. From the Eyes to the Bill is a triangular ſpace, bare of feathers, of a black colour, the baſe whereof reſpects the Bill, the *vertex* the Eyes. In old ones the Bill is red, the hook or nail at the end being black. Above at the baſe of the Bill grows a great Lobe of tuberous fleſh of a black colour, bending forward or downward. The ſpace under the Eyes always continues black. The Tongue is indented or toothed: The Feet

of a lead colour, bare a little above the knee. The inmoſt Toe hath a lateral membrane appendant. The Claws are black.

The ſtomach is furniſhed with thick and ſtrong muſcles: The Guts have eight or nine revolutions, and are large. The Wind-pipe in this kind enters not the Breaſt-bone. Wherefore *Aldrovand* doth not rightly infer that *Ariſtotle* never diſſected this Fowl, becauſe he makes no mention of this ingreſs, and of the ſtrange figure of the Wind-pipe. For this is proper to the *wild Swan*, not common to both kinds; we having not obſerved ſuch a conformation of the Wind-pipe in any of thoſe tame *Swans* we have diſſected. *Aldrovandus* therefore thinking there was but one kind of *Swan*, *viz.* that which he diſſected, did erroneouſly attribute what was proper to that one kind, to the *Swan* in general. We have opened two *wild Swans*, and in both have obſerved the Wind-pipe ſo to enter the cavity of the Breaſt-bone, and to be there ſo reflected as *Aldrovandus* hath expreſſed both in words and figures: Of *tame Swans* we have anatomized many, and in all have obſerved the wind-pipe to deſcend ſtreight down into the Lungs without any ſuch digreſſion or reflection.

It is a very long-lived fowl, ſo that it is thought to attain the age of three hundred years: Which (ſaith *Aldrovandus*) to me ſeems not likely. For my part, I could eaſily be induced to believe it: For that I have been aſſured by credible perſons that a *Gooſe* will live a hundred years or more. But that a *Swan* is much longer-lived than a *Gooſe*, if it were not manifeſt in experience, yet are there many convincing arguments to prove, *viz.* that in the ſame kind it is bigger: That it hath harder, firmer, and more ſolid fleſh: That it ſits longer on its Eggs before it hatches them. For, that I may invert *Plinies* words, Thoſe creatures live longeſt that are longeſt born in the Womb. Now incubation anſwers to geſtation. For the Egg is as it were an expoſed Womb with the young encloſed, which in viviparous Animals are cheriſhed, and, as I may ſo ſay, hatched within the body, in oviparous Animals without the body, by the warmth of the old one ſitting upon them.

The *Swan* feeds not upon fiſh, but either upon herbs growing in the water, and their roots and ſeeds, or upon Worms, and other Inſects, and ſhell-fiſh. *Albertus* writes truly, that its fleſh is black and hard. As the Bird it ſelf is far bigger than a *Gooſe*, ſo its fleſh is blacker, harder, and tougher, having groſſer fibres, hard of digeſtion, of a bad and melancholic juice: Yet for its rarity ſerves as a diſh to adorn great mens Tables at Feaſts and entertainments, being elſe in my opinion no deſirable dainty. It lays ſeven or eight Eggs, and ſits near two months before its young ones be hatcht.

They make uſe of the skin, the groſſer feathers pluckt off, and only the Down left, and ſo dreſt, as a defenſative againſt cold, eſpecially to cover and cheriſh the Breaſt and Stomach.

§. II.

A wild Swan, called alſo an Elk, and in ſome places a Hooper.

IT weighs leſs than a *tame Swan*, not exceeding two hundred ſixty five ounces, or ſixteen pound three quarters, Its length from the tip of the Bill to the end of the Feet was ſixty inches, to the end of the Tail fifty ſix. The figure of the body is the ſame with the tame *Swans*: The colour white, yet not all over ſo white as the tame *Swans*: For the middle of the Back, and the ſmaller covert-feathers of the Wings are cinereous: Sometimes alſo here and there a brown feather is mixt with the white ones in the Back. Each Wing hath thirty eight quils. The firſt feather of the baſtard-wing is longer than ordinary, as in the tame *Swan*: The quils much leſs than in that. The Bill towards the tip, and as far as the Noſthrils, is black: Thence to the Head covered with a yellow membrane. [Mr. *Willughby* deſcribes the Bill a little differently thus. The upper Mandible is moveable, from the Eyes to the Noſthrils bare, and of a fair yellow colour, beyond the Noſthrils black. The lower Mandible is black, but the membrane under the Chin yellow.] The Legs are bare of feathers a little above the knees, of a dusky yellow, as are alſo the Feet. The Wind-pipe after a ſtrange and wonderful manner enters the Breaſt-bone in a cavity prepared for it, and is therein reflected, and after its egreſs at the divarication is contracted into a narrow compaſs by a broad and bony cartilage, then being divided into two branches goes on to the Lungs. Theſe branches before they enter the Lungs are dilated, and as it were ſwoln out into two cavities.

On

On the ſides of the Rump grow two huge glandules, out of which by a light preſſure may be ſqueezed a certain glutinous ſubſtance like to ear-wax, wherewith ſhe anoints and compoſes her feathers. But theſe glandules are not peculiar to this Bird, though perchance greater and more remarkable in her, but common to all. The Bird we deſcribed was a Female. The knot or bunch of Eggs was ſituate far within the body, between the very Lobes of the Lungs. The Wind-pipe enters the breaſt-bone, and comes out again below the *Merry-thought*: The ſtomach is very fleſhy, and furniſhed with thick muſcles. Above the Stomach the Gullet is dilated into a bag, thick-ſet, and as it were granulated within with many papillary glandules, excerning a kind of *Saliva*, which ſerves as a *menſtruum* to macerate the meat.

The Wind-pipe reflected in form of a Trumpet ſeems to be ſo contrived and formed by nature for modulating the voice. Hence what the Ancients have delivered concerning the ſinging of *Swans* (if it be true, which I much doubt) ſeems chiefly to agree to this bird, and not to the *tame Swan*.

For my part, thoſe ſtories of the Ancients concerning the ſinging of *Swans*, *viz.* that thoſe Birds at other times, but eſpecially when their death approaches, do with a moſt ſweet and melodious modulation of their voice, ſing their own *Nænia* or funeral ſong, ſeemed to me always very unlikely and fabulous, and to have been therefore not undeſervedly exploded by *Scaliger* and others. Howbeit *Aldrovandus*, weighing on both ſides the Arguments and Authorities of learned men, hath (he ſaith) obſerved them to be equal; wherefore to caſt the ſcale, and eſtabliſh the affirmative, he thinks that wonderful ſtructure of the Wind-pipe, by him firſt obſerved, is of weight ſufficient. But this Argument though it be very ſpecious and plauſible, yet doth it not conclude the controverſie. For we have obſerved in the Wind-pipe of the *Crane* the like ingreſs into the cavity of the Breaſt-bone, and reflection therein, or a more remarkable one; yet no man, that I know of, ever commended the *Crane* for ſinging, or muſical modulation of its voice. But if you ask me, to what purpoſe then doth the Wind-pipe enter into the breaſt-bone, and is in that manner reflected there? I muſt ingenuouſly confeſs, I do not certainly and fully know. Yet may there be other reaſons aſſigned thereof; as that which * *Aldrovand* alledges in the firſt place, 1. That whereas ſometimes for almoſt half an hours ſpace the *Swan* continues with her heels up, and her head under water, ſeeking and gathering up her food from the bottom of the Pool or River ſhe ſwims in, that part of the Wind-pipe encloſed in the breaſt-bone may ſupply her with air enough to ſerve her all that while. So the uſe of it will be to be a ſtore-houſe of air, for the advantage of diving and continuing long under water. 2. This kind of ſtructure doth undoubtedly conduce much to the increaſing the ſtrength and force of the voice. For that the *wild Swan* hath a very loud and ſhrill cry, and which may be heard a long way off, the *Engliſh* name *Hooper*, impoſed upon it (as I ſuppoſe) from its hooping and hollowing noiſe doth import.

* *Ornithol.* t. 3. p. 19.

Hence it appears how uncertain and fallacious a way of arguing it is from the final cauſe. For though Nature, Gods ordinary Miniſter, always acts for ſome end, yet what that is we are often ignorant, and it doth not rarely fall out to be far different from what we fancy: Nay we may be deceived when we think we are moſt ſure, and imagine it can be no other than what we have preſumed.

Wherefore I make more account of the teſtimonies he alledges; as of *Frederick Pendaſius*, that affirmed he had often heard *Swans* ſinging ſweetly in the Lake of *Mantua*, as he was rowed up and down in a Boat. But as for the teſtimony of *George Braun* concerning flocks of *Swans* in the Sea near *London*, meeting, and as it were welcoming the Fleets of Ships returning home with loud and chearful ſinging, is without doubt moſt falſe: We having never heard of any ſuch thing.

* *Olaus Wormius* of late confirms the opinion of *Aldrovand*, and the reports of the Ancients concerning the ſinging of *Swans*, producing the Teſtimonies of ſome of his familiars and Scholars who profeſſed themſelves to have heard their muſic. There was (ſaith he) in my Family a very honeſt young man, one Mr. *John Roſtorph* Student in Divinity, a *Norwegian* by Nation. This man did upon his credit, and with the interpoſition of an Oath ſolemnly affirm, that himſelf in the Territory of *Dronten* did once by the Sea-ſhore early in the Morning hear an unuſual and moſt ſweet murmur compoſed of moſt pleaſant whiſtlings and ſounds: Which, when as he knew not whence it came, or how it was made, for that he ſaw no man near which might be the author of it, looking round about him, and climbing up the top of a certain Promontory, he eſpied an infinite number of *Swans* gathered together in a Bay of the Sea near hand, making that harmony; a ſweeter than which in all his lives time he had

* *Muſæ.* book 3. chap. 13.

had never heard. By ſome Iſlanders, my Scholars, I have been told, that nothing is more frequent with them than this harmony, in thoſe places where there are *Swans*. This I therefore alledge, that it may appear that the report of thoſe famous ancient Authors concerning the ſinging of *Swans* is not altogether vain, but atteſted and proved by modern experiments. Thus far *Wormius*. Let the Readers judge whether his witneſſes be ſufficient.

This Bird hath not as yet, that I know of, been deſcribed by any Author.

Chap. II.

Of the Gooſe.

§. I.

Of the tame Gooſe.

IT is leſs than a *Swan*, bigger than a *Duck*; weighing ſometimes when fatted ten pounds. Its length from the tip of the Bill to the end of the Tail, in that we meaſured, was thirty five inches and an half, to the end of the Feet thirty ſeven and an half: The Wings extended were ſixty inches and an half over. The length of the Neck from the tip of the Bill to the ſetting on of the Wings ſeventeen inches. The Bill it ſelf from the tip to the angles of the Mouth was two inches three quarters long, to the Eyes three and an half. The Tail was ſix inches and an half long, compounded of eighteen feathers, the outmoſt the ſhorteſt, the reſt by degrees longer to the middlemoſt, which are the longeſt. The colour in theſe, as in other tame Birds is various, in ſome brown, in ſome grey, in ſome white, in ſome flecked, or particoloured of white and brown. The Bill and Legs in young ones are yellow, in old ones for the moſt part red. The Bill is thick at the head, and ſlenderer by degrees to the point. Each Wing hath twenty ſeven quils or feathers in the firſt row. When it is angry it hiſſes like a Serpent. It is very long-lived. A certain friend of ours of undoubted fidelity told us that his Father had once a *Gooſe* that was known to be eighty years old, which for ought he knew might have lived the other eighty years, had he not been conſtrained to kill it for its miſchievouſneſs in beating and deſtroying the younger *Geeſe*.

But of the *Gooſe*, a Bird ſo well known in all Nations, more than enough.

§. II.

The common wild Gooſe: Anſer ferus.

IN bigneſs it equals a tame *Gooſe*; is for the ſhape of its body very like it, and not much different in colour. Its Head, Neck, Back, generally its whole upper ſide, excepting the feathers incumbent on the Tail is of a dark grey or brown. Yet the uppermoſt covert-feathers of the Wings are paler. The ſecond, third, and fourth rows of Wing feathers, and likewiſe the ſcapular ones have white edges about their tips. The feathers alſo next the Tail are purely white. The quils of the Wings are twenty ſeven in number, of a dark brown, almoſt black. The Tail is ſix inches long, compoſed of eighteen black feathers, having their tips and exteriour edges white. The colour of the underſide of the body is a light grey, by degrees lighter from the Head to the Tail, whereunder it is perfectly white. The Bill is more than two inches long, from the Head almoſt half way black, then of a Saffron colour, the tip again being black. The upper Mandible all along is toothed or indented with many rows of ſmall teeth; the nether only with one row on each ſide. The Tongue alſo hath on either ſide a row of Teeth in its bordering membrane. Its Legs and Feet are of a Saffron colour: Its Claws black or livid. Under each Eye is a whitiſh line. That we deſcribed weighed ſeven pound and a quarter.

§. III.

The Bernacle or Clakis: Bernicla ſeu Bernacla.

IT is leſſer than a tame *Gooſe*. Its length from the tip of the Bill to the end of the Claws or Tail (for they are equally extended) is thirty one inches. Its Bill black, much leſſer and ſhorter than a *Gooſes*, from the tip to the angles of the Mouth ſcarce an inch and half. The Chin, Cheeks, and what of the forehead touches the Bill is white, excepting only a line or bed of black between the Eyes and Bill. The Neck and fore-part of the Breaſt to the **ſternum* both above and beneath is black. The under-ſide of the body is white, with ſome mixture of cinereous, yet the lower feathers on the Thighs a little above the Knees are black. The feathers next the Tail are white, thoſe above them black, elſe the Back is particoloured of black and cinereous. The Tail black: The quil-feathers of the Wings brown: The leſſer rows of covert-feathers of the Wings have white edges, then they are black for a good way, the remaining part of the feather being aſh-coloured: which colours ſo ſucceeding one another make a very fair ſhew. The hind-toe is very ſmall.

* Breaſt-bone.

It frequents the Sea-coaſts of *Lancaſhire* in the Winter-time. This is the Bird which *Bellonius* deſcribes under the title of *Cravant* or *Oye Nonnette*, which he thinks to be the *Chenalopex* of the Ancients. See *Bellonius* his deſcription in * *Aldrovand*, which agrees exactly to this bird. We have ſometimes thought the *Bernacle* and *Brent*-Gooſe to differ only in Sex, not in † *Species*, but afterwards more diligently conſidering and comparing both their caſes we changed our opinion, for there are remarkable notes by which they may be diſtinguiſhed, as will eaſily appear to whoſoever will take the pains to compare their deſcriptions. For in this the Chin and Cheeks are white, in that the whole Head and Neck black, ſave only a black line on each ſide the Neck; which in the *Bernacle* are wanting. Beſides, the *Bernacle* ſeemed to us bigger, and much fairer, for thoſe cinereous and black colours alternately diſpoſed in the feathers of the Back and Wings make a very lovely ſhew.

* *Ornithol.* tom. 3. p. 166.

† Kind.

This alſo ſeems to be the ſame with the *Brenta* or *Bernicla* of *Geſner*, although his deſcription be not very exact. Perchance alſo the *Baumganſz* or tree-gooſe of *Geſner* may be the ſame, although he make them different birds: For the deſcription of this he took from a Picture, as it ſeems, not exactly drawn: Unleſs his *Baumganſz* be the ſame with *Baltners*, *i. e.* the *Brenta*, next to be deſcribed.

What is reported concerning the riſe and original of theſe birds, to wit, that they are bred of rotten wood, for inſtance, of the Maſts, Ribs, and Planks of broken Ships half putrified and corrupted, or of certain Palms of trees falling into the Sea, or laſtly, of a kind of Sea-ſhels, the figures whereof *Lobel*, *Gerard*, and others have ſet forth, may be ſeen in *Aldrovand*, *Sennertus* in his *Hypomnemata*, *Michael Meyerus*, who hath written an entire book concerning the *Tree-fowl*, and many others. But that all theſe ſtories are falſe and fabulous I am confidently perſwaded. Neither do there want ſufficient arguments to induce the lovers of truth to be of our opinion, and to convince the gainſayers. For in the whole *Genus* of Birds (excepting the *Phœnix* whoſe reputed original is without doubt fabulous) there is not any one example of equivocal or ſpontaneous generation. Among other Animals indeed the leſſer and more imperfect, as for example many Inſects and Frogs, are commonly thought either to be of ſpontaneous original, or to come of different ſeeds and principles. But the greater Animals and perfect in their kind, ſuch as is among Birds the *Gooſe*, no Philoſopher would ever admit to be in this manner produced. Secondly, thoſe ſhells in which they affirm theſe Birds to be bred, and to come forth by a ſtrange *metamorphoſis*, do moſt certainly contain an Animal of their own kind, and not tranſmutable into any other thing: Concerning which the Reader may pleaſe to conſult that curious Naturaliſt *Fabius Columna*. Theſe ſhells we our ſelves have ſeen, once at *Venice* growing in great abundance to the Keel of an old Ship; a ſecond time in the *Mediterranean* Sea, growing to the back of a *Tortoiſe* we took between *Sicily* and *Malta*. *Columna* makes this ſhell-fiſh to be a kind of *Balanus marinus*. Thirdly, that theſe *Geeſe* do lay Eggs after the manner of other Birds, ſit on them, and hatch their Young, the *Hollanders* in their Northern Voyages affirm themſelves to have found by experience.

§. IV.

The Brent-Gooſe: Brenta.

IT is a little bigger than a *Duck*, and longer-bodied. The Head, Neck, and upper part of the Breaſt are black. But about the middle of the Neck on each ſide is a ſmall ſpot or line of white, which together appear like a ring of white. The Back is of the colour of a common *Gooſe*, that is, a dark grey. Toward the Tail it is darker coloured: But thoſe feathers which are next and immediate to the Tail are white. The lower Belly is white: The Breaſt of a dark grey: The Tail and greater quils of the Wings black, the leſſer of a dark grey. The Bill is ſmall, black, an inch and half long, thicker at the head, ſlenderer toward the tip: The Eyes hazel-coloured: The Noſthrils great: The Feet black, having the back-toe. The length of the Bird from Bill to Tail was twenty inches.

I am of opinion that the *Brant-Gooſe* differs ſpecifically from the *Bernacle*, however Writers of the Hiſtory of Birds confound them, and make theſe words Synonymous.

We have ſeen both alive among his Majeſties *Wild-fowl* kept in St. *James*'s Park. The Caſe of the *Brent-Gooſe* ſtuft we have ſeen with Mr. *Johnſon* at *Brignal* in *Yorkſhire*, of the *Bernacle* in Sir *William Foſters* Hall at *Bamburgh* in *Northumberland*: Mr. *Jeſſop* alſo ſent us them both out of *Yorkſhire*.

This is the Bird whoſe figure *Aldrovandus* gives us in the third Tome of his *Ornithologie*, Chap. 37. which *Brancion* ſent him painted out of the *Low-Countries*: The whole Head, and Neck beſides a certain imperfect white circle in its upper part, the Back and inſide of the Thighs were black, the Eyes yellow: The Bill ſhorter than in that of *Bellonius* [our *Bernacle*] and thicker where it joyns to the Head: The Wings from aſh-colour inclined to brown.

Both the deſcription and the figure of the *Ring-Duck* [*Anas torquata*] of *Bellonius* agree in all points to this Bird of ours, ſo that I doubt not but they are the ſame. See *Aldrovands Ornithologie*, Book 19. Chap. 37. It is painted and deſcribed by *Leonard Baltner* under the title of *Baumganſs*, that is, *Tree-Gooſe*; and perchance may be alſo the *Baumganſz* of *Geſner*.

Mr. *Johnſon*, in his Letters lately ſent us, writes, as if he thought that this were only the Female of the precedent, induced chiefly by this argument, that the Fowlers obſerve theſe to company and fly together with them, as themſelves told him.

§. V.

The Swan-Gooſe: Anſer cygnoides Hiſpanicus ſeu Guineenſis.

THe Back, as in other *Geeſe*, is of a dark grey: The Belly white: The Throat and Breaſt of a reddiſh brown. A line or liſt of dark brown runs all along the ridge of the Neck from the Head to the Back. The Bill is black, from the root whereof ariſes a knob or bunch over-hanging it, which in the Males and old Birds is bigger than in the Hens and Young. A line or fillet of white between the Eyes and Bill adorns the Head. The Tail is of the ſame colour with the Back and Wings, the tips of the feathers being whitiſh. The Feet are red, and in ſome the Bill too. The back-toe is little. It is a ſtately Bird, walking with the Head and Neck decently erected.

§. VI.

The Gambo-Gooſe, or Spur-wing'd Gooſe.

IT is for ſhape of body like to the *Muſcovy Duck*, and of equal bigneſs: Hath long red Legs: A white Belly; the Back of a dark, ſhining, purple colour. Its Bill is red: Its Cheeks and Chin white. Its Head hath a red * Caruncle. But what is moſt remarkable in it, is a ſtrong Spur proceeding from the firſt joynt of the Wings: The like whereto *Marggrave* hath obſerved in four or five ſorts of *Braſilian* Birds: But no *Europæan* Fowl, that I know of, hath them.

* Fleſhy protuberance.

§. VII.

§. VII.

The Canada Goose.

ITs length from the point of the Bill to the end of the Tail, or of the Feet is forty two inches. The Bill it self from the angles of the mouth is extended two inches, and is black of colour: The Nosthrils are large. In shape of body it is like to a tame *Goose*, save that it seems to be a little longer. The Rump is black, but the feathers next above the Tail white: The Back of a dark grey, like the common *Gooses*. The * lower part of the Neck is white, else the Neck black. Ir hath a kind of white stay or muffler under the Chin, continued on each side below the Eyes to the back of the Head. The Belly is white: The Tail black, as are also the greater quils of the Wings, for the lesser and covert-feathers are of a dark grey, as in the common tame *Geese*. The Eyes are hazel-coloured, the edges of the Eye-lids in some, I know not whether in all, white: The Feet black, having the hind-toe.

* Bottom.

The title shews the place whence it comes. We saw and described both this and the precedent among the Kings Wild-fowl in St. *James*'s Park.

§. VIII.

The Rat-Goose, or Road-Goose: Brenthus fortasse.

MR. *Johnson*, who shewed us this Bird at *Brignal* in *Yorkshire*, thus describes it. It is less by half than a tame *Goose*, about two foot long; its Bill scarce an inch, black of colour, as are also the Feet. The top of the Head and part of the Neck black: The feathers next the Bill, the Throat and Breast brown: The rest of the under-side white: The upper-side grey, but the ends of the feathers from grey darken into a browniish colour, the edges changing into white, as is usual also in the common tame Goose. The quils of the Wings, and the Tail are black, but this hath white feathers on each side. The Rump is also white.

It is a very heedless Fowl, (contrary to the nature of other *Geese*) so that if a pack of them come into *Tees*, it is seldom one escapes away, for though they be often shot at, yet they only fly a little, and suffer the Gunner to come openly upon them.

SECTION VII.

Memb. II.

Broad-billed Birds of the Duck-kind.

Chap. I.

Of the Duck in general.

THe *Duck-kind* have shorter Necks and larger Feet in proportion to their bodies than *Geese*: Lesser bodies: Howbeit, the biggest in this kind do equal, if not exceed the least in that. They have shorter Legs than *Geese*, and situate more backward, so that they go wadling: A broader and flatter Back, and so a more compressed body; and lastly, a broader and flatter Bill. Their Tongue is pectinated or toothed on each side, which is common to them with *Geese*.

These are of two sorts, either wild or tame. The wild again are of two sorts, 1. *Sea-Ducks*, which feed most what in salt-water, dive much in feeding, have a broader Bill, (especially the upper part) and bending upwards, (to work in the slem) a large hind-toe, and thin, (likely for a Rudder) a long train, not sharp-pointed. 2. *Pond-Ducks*, which haunt Plashes, have a streight and narrower Bill, a

very little hind-toe, a sharp-pointed Train, white Belly, speckled feathers, black, with glittering green in the middle Wing, with a white transverse line on either side. For this distinction of *Sea-Ducks* and *Pond-Ducks* we are beholden to Mr. *Johnson*.

Chap. II.

Of Sea-Ducks.

§. I.

* *Wormius his* Eider *or soft-feathered Duck.*

* The soft-feathered Duck.

There hath been brought me (saith *Wormius*) from the *Ferroyer* Islands a certain sort of *Duck* they call there *Eider*: What name the *Latines* give it I know not, I have thought fit to intitle it, * *Anas plumis molliſſimis*. The Cock differs from the Hen in many things, though the lineaments of the body are much what the same. The Cock in figure or shape exactly resembles a tame *Drake* or *Mallard*; hath a flat, black Bill, coming nearer the figure of a *Gooses* than a *Ducks*; perforate in the middle with two oblong holes, serving for respiration; of the length of three inches, pectinated on the sides. From the Nosthrils through the crown of the Head above the Eyes two very black spots or strokes consisting of soft feathers tend to the hinder part of the head, divided by a narrow white line ending in the upper part of the Neck, * which from green inclines to white. The whole Neck, the lower part of the Head, the Breast, the upper side of the Back and Wings are white: The quils of the Wings black, as also the whole Breast and Rump, The Tail, which is three inches long, is also black: The Legs short and black: The Feet consist of three black Toes, joyned together to the ends by a black membrane: The Toes armed with sharp, crooked Claws. They have a * Spur behind, situate at the beginning of the Leg, furnished also with the like membrane and claw.

* Upper part of the Neck.

* A back-toe he means.

The Hen is of the same bigness and figure, but all over of one uniform colour, *viz.* brown, sprinkled here and there with certain black spots: in its other lineaments and parts agreeing with the Cock.

They build themselves Nests on the Rocks, and lay good store of very savoury and well-tasted Eggs; for the getting of which the neighbouring people let themselves down by ropes dangerously enough, and with the same labour gather the feathers (*Eider dun* our People call them) which are very soft, and fit to stuff Beds and Quilts. For in a small quantity they dilate themselves much (being very springy) and warm the body above any others. These Birds are wont at set times to moult their feathers, enriching the Fowlers with this desirable merchandize. This same description *Wormius* repeats again in the third book of his *Museum*, pag. 310.

§. II.

The Cutbert-Duck: Anas S. Cuthberti seu Farnensis.

It is bigger than the *tame Duck*. The Male is particoloured of white and black, the Back white, the Tail and feathers of the Wings black. The Bill is scarce so long as a *Ducks*: The upper Mandible a little crooked at the end, over-hanging the lower. The Legs and Feet black; having a back-toe. But, what is most remarkable in this kind is, that on both sides the Bill in both Sexes the feathers run down in an acute angle as far as the middle of the Nosthril below [under the Nosthrils.] The Female is almost of the colour of a *Hen-Grouse*. This Fowl builds upon the *Farn* Islands, laying great Eggs. I suspect, nay, am almost confident, that it is the same with *Wormius* his *Eider*. I saw only the Cases of the Cock and Hen stuft, hanging up in Sir *William Fosters* Hall at *Bambergh* in *Northumberland*. It breeds no where about *England* but on the *Farn* Islands, that we have ever heard of. When its young ones are hatcht it takes them to the Sea, and never looks at Land till next breeding time, nor is seen any where about our Coasts.

§. III.

§. III.

Aldrovandus his black Duck.

IT is bigger than the common Duck. Its Bill is broad and ſhort, yellow on both ſides, black in the middle, with a red hook at the tip. The Head and part of the Neck are of a black green, or black, with a tincture of green: The Legs and Feet are red on the out-ſide, of a citron-colour on the inſide: The Web of the Foot and the Claws of a deep black. All the reſt of the body is black, ſaving a croſs line of white in the middle of the Wings, and a white ſpot behind each Eye. The feathers of the whole body are ſo ſoft and delicate as nothing more, ſo that it might be not undeſervedly called the *Velvet-Duck*. In the Stomach and Guts, almoſt down to the ſtreight Gut, I found ſmall indigeſted fragments of *Cockle* and *Periwinkle*-ſhells: But in the ſtreight gut they were all concocted, and reduced into a fine powder or ſand. It is ſeldom ſeen with us, unleſs driven over by a ſtorm, but on the ſhores of *Norway* there are great flocks of them, hundreds together.

This is that Duck which *William Maſcerellius*, a Phyſician of *Collen*, ſent to *Aldrovandus*, giving it this title: *The black Duck with a black, red, and yellow Bill*; whoſe figure, though not very elegant, we have borrowed. The deſcription of this Bird we owe to Mr. *Johnſon*, with whom alſo we ſaw its Caſe ſtuft.

§. IV.

The Sheldrake or Burrough-Duck, called by ſome, Bergander; Tadorna *Bellon.* Vulpanſer quibuſdam.

IT is of a mean bigneſs, between a *Gooſe* and a *Duck*. Its Bill is ſhort, broad, ſomething turning upwards, broader at the tip, of a red colour all but the Noſthrils, and the nail or hook at the end, which are black. At the baſe of the upper Mandible near the Head is an oblong carneous bunch or knob. The Head and upper part of the Neck are of a black, or very dark green, ſhining like ſilk, which to one that views it at a diſtance appears black: The reſt of the Neck and region of the Craw milk-white. The upper part of the Breaſt and the Shoulders are of a very fair orange or bright bay-colour. [The fore-part of the body is encompaſſed with a broad ring or ſwath of this colour.] Along the middle of the Belly from the Breaſt to the Vent runs a broad black line. Behind the Vent under the tail the feathers are of the ſame orange or bay colour, but paler. The reſt of the Breaſt and Belly, as alſo the underſide of the Wings is white: The middle of the Back white: The long ſcapular feathers black. All the Wing-feathers, as well quils as coverts, excepting thoſe on the outmoſt * joynt, are white. * Bone.

Each Wing hath about twenty eight quil-feathers, the ten foremoſt or outmoſt whereof are black, as are thoſe of the ſecond row incumbent on them, ſave their bottoms: Above theſe toward the ridge of the Wing grow two feathers, white below, having their edges round about black. The next twelve quils, as far as they appear above their covert-feathers, are white on the inſide the ſhaft, on the outſide tinctured with a dark ſhining green. The three next on the inſide the ſhaft are white, on the outſide have a black line next the ſhaft, the remaining part being tinctured with an orange colour. The twenty ſixth feather is white, having its outer edge black.

The Tail hath twelve feathers, white, and tipt with black, all but the outmoſt, which are wholly white.

The Legs and feet are of a pale red or fleſh-colour, the skin being ſo pellucid that the tract of the veins may eaſily be diſcerned through it.

It hath as it were a double Labyrinth at the divarication of the Wind-pipe.

Its fleſh is not very ſavoury or delicate, though we found neither fiſh nor fiſh-bones in its ſtomach.

They are called by ſome, *Burrow-Ducks*, becauſe they build in Coney-burroughs: By others, *Sheldrakes*, becauſe they are particoloured: And by others, it ſhould ſeem, *Berganders*, which name I find in *Aldrovand*, *Book* 19. *Chap.* 19.

We have ſeen many of them on the Sea-coaſts of *Wales* and *Lancaſhire*, nor are they leſs frequent about the Eaſtern ſhores of *England*.

§. V.

The ſharp-tail'd Iſland Duck of Wormius, called by the Iſlanders, Havelda.

IT is leſs than the broad-bill'd *Duck*, called by *Geſner Schellent:* From the crown of the Head to the Rump of a foot and three inches length. Its Head is ſmall, compreſſed, having white feathers about the Eyes; on the crown black ones inclining to cinereous. The Neck is of the ſame colour: The Back down to the Rump is black, with a mixture of * *Iſabella* colour. The Plumage on its Rump is mingled of black and white. Out of the end of the Rump ſpring four ſharp, black feathers; two of which are nine inches long, the other two of the ſame colour and figure, being but one third of the former in length. The underſide of the Neck and the Belly half-way are black; the other half, and the ſides, ſo far as covered by the Wings, white. The feathers on the upper ſurface of the Wings are of a purpliſh black, on the under ſide cinereous. The Bill is broad like the *common Ducks*, toothed; the tip, and the part next the Head black, the middle part of an elegant red-lead-colour: It is ſmall and proportioned to the body. The Feet are * brown; the Claws and membranes between the Toes black. The fourth (which ſtands backward, and reſembles a Spur) hath a broad membrane annexed.

* *Gilvo.*

* Or dusky, *fuſcâ.*

§. VI.

The Swallow-tail'd Sheldrake of Mr. Johnſon.

THe Bill is ſhort and ſimous, black at the root to the Noſthrils, and at the end, the reſt red: The Head and Neck all white, which colour reacheth to a good part of the Breaſt, but further on the Back almoſt to the *Scapulæ*, ſave that there and behind the Ears there is a mixture of dusky Plumage: The Back and Wings black, as is the Breaſt to the mid-belly; but the Wings are lighter than the Back, eſpecially the middle Pens, which incline to a ruſſet. On either ſide the Back from the *Scapulæ* go down divers long, ſharp-pointed white feathers, which make an *area* of about four inches long, and one broad: The reſt of the Belly and under the Tail is all white: The Tail hath ſixteen pens; the two outmoſt all white, the four middle all black, and two of thoſe longer than the reſt by three inches at leaſt, and very ſharp-pointed, the reſt black on the out edge, and white on the inner; the Legs whitiſh blue, with black Webs. She is a great diver, and of the ſize of a *Wigeon.*

I ſhould have taken this to be the Male, and that deſcribed by *Wormius* the Female *Havelda*, in reſpect of ſome common notes in Tail and Neb; but that the Female was with this of mine (as may be preſumed, a pair only feeding together, ſeveral days in *Tees* River, below *Barnards-Caſtle*) and did not much differ in colour. Thus far Mr. *Johnſon:* I am almoſt perſwaded that it is ſpecifically the ſame with *Wormius* his *Havelda*, differing only in Age or Sex, or perhaps both.

§. VII.

The great red-headed Duck: Seen and deſcribed at Rome.

IT is full as big or bigger than the tame *Duck*; weighing two pounds and ten ounces *Roman.* Its Bill is broad, as in the reſt of this kind, thicker and broader at the baſe, ſlenderer, and narrower toward the point, ſtreight, of a light ſanguine colour. Each Mandible is pectinated or toothed with low teeth. The Tongue is thick, broad, as is uſual in *Ducks*, of a fleſh colour, cut in on each ſide with black teeth, like thoſe of a Sickle. The Head ſeems greater and thicker than in proportion to the body. The crown of the Head is covered with a curious ſilken Plumage of a pale red colour. Theſe feathers are longer than ordinary, and more erect, ſo that they appear like a great creſt or tuft. The Eyes are red like the Bill, or rather of a red-lead colour. Beneath the Eyes on each ſide and under the Throat the feathers are of a deep * red. The whole Neck, the Breaſt, Shoulders and whole Belly are black. The ſides under the Wings, and the interiour ſurface of the Wings white, with a very ſleight tincture or daſh of red. Each Wing had twenty ſix quils of the ſame colour alſo above, excepting only the ſix next the body, which are grey, or aſh-coloured.

* *Ruffus.*

Yet

Yet the tips of all are black, and in the four or five outmoſt the exteriour Webs alſo. In the middle quils the extreme tips are again white. All the covert feathers are grey, excepting a white line in the uppermoſt ridge of the Wing. The middle of the Back is of a grey or aſh-colour, with a light tincture of red. Of the ſame colour are thoſe long feathers growing at the ſetting on of each Wing, and covering the Back: Above which appear in the Back two broad white ſpots of the figure of the ſegment of a circle. The hinder part of the Back to the very Tail is black. The Tail it ſelf very ſhort, compoſed of ſixteen feathers, their upper ſides grey, their under white, with a light tincture of red. The Legs and Feet, as in other birds of this kind, red, yet here and there, eſpecially about the joynts, clouded with ſable. The membranes connecting the Toes, and all the ſoals of the Feet black. The Bird I deſcribed was a Cock, and had a Labyrinth at the divarication of the Wind-pipe. The Wind-pipe it ſelf was greater at the head, ſlenderer in the middle, and above the Labyrinth again ſwoln into a greater tube. Its Stomach or Gizzard very large, and provided with very thick and ſtrong muſcles, filled with very ſmall ſtones mingled with graſs. Its Liver pale; Gall-bladder little, blind guts long.

This Bird I found in the Market at *Rome*, ſhot, I ſuppoſe, upon the Sea-coaſt. I never hapned to ſee it elſe where, neither do I find any deſcription of it, or ſo much as any mention made of it in any book. Where it lives and breeds I know not.

§. VIII.

The Scaup-Duck: Perchance the Fuligula *of Geſner.*

IT is ſomewhat leſs than the common *Duck*, about two foot long. Its Bill is broad, and blue; the upper Mandible much broader than the nether. The Head and part of the Neck are of a black green: The Breaſt and underſide of the Neck black, the lower part of the Neck hath ſomething of white mingled. The Belly is white, with a ſprinkling of yellow in its lower part, about the Vent of black. The upper part of the Back is of a ſooty or ſable colour; the middle white, waved with tranſverſe lines of brown; the lower, together with the Tail, brown. The Tail is ſcarce two inches long: The Wings brown, adorned on the upper ſide with white ſpots, having alſo a croſs line of white. The Legs and Feet, together with the Web and Claws, are of a dusky blue colour.

This Bird is called the *Scaup-duck*, becauſe ſhe feeds upon *Scaup*, *i.e.* broken ſhel-fiſh: She varies infinitely in colour, eſpecially in Head and Neck, ſo that among a pack of forty or fifty you ſhall not find two exactly alike: A thing not uſual in this kind.

This Bird we have not as yet ſeen: We owe this deſcription and hiſtory of it to Mr. *Johnſon.*

§. IX.

The tufted Duck: Anas Fuligula prima *Geſneri*, * *Aldrov.* Mergus cirratus minor *Geſn.* Querquedula criſtata ſive Colymbis *Bellonii*, *Aldrovand.* p. 210. *as we think.* Capo negro *at Venice.* * *Ornithol.* t. 3. p. 217.

THe Bill from the tip to the corners of the Mouth is about two inches long, broad, of a pale blue colour all but the tip, which is black. The feathers on the forehead deſcend down the middle of the Bill in a peak or angle. The Noſthrils are great, at a pretty diſtance from the Plumage. The *Irides* of the Eyes of a yellow or gold colour: The Ears ſmall, as perchance in all Water-fowl. The Head, eſpecially the crown, of a dark purple inclining to black, or rather black with ſome mixture of purple; whence at *Venice*, and elſewhere in *Italy*, it is called, *Capo negro.* It hath a creſt or cop hanging down backwards from the Head, of an inch and half long. The colour of the Neck, Shoulders, Back, in fine the whole upper part is a dark brown, almoſt black.

The Wings are ſhort, all the covert feathers black: The four outmoſt quils of the ſame colour with the body; the ſucceeding little by little whiter, the ſubſequent than the antecedent. The ſecond decad or middle quils are purely white, all but their tips, which are black. The next ſix are wholly black. The Tail is very ſhort, compoſed of fourteen black feathers.

The

The nether ſide of the Neck and forepart of the Breaſt are black, the reſt of the Breaſt and Belly, as far as the Vent, of a white or ſilver-colour, the lower the darker. Behind the Vent it is black. The lateral feathers covered by the Wings when cloſed, thoſe on the Thighs, and the under-coverts of the Wings are white. The interiour baſtard-wing conſiſts of ſix white feathers.

The Legs are ſhort and ſituate backwards: The Feet of a livid or dark blue colour, the Web black: The Toes long.

The body is ſhort, thick, broad, and ſomething compreſſed or flat, weighing about two pounds.

In the angle of the lower Mandible ſome have a white ſpot, which in others is wanting.

The Wind-pipe hath its labyrinth. The Liver is divided into two Lobes, having a Gall annexed. The Gizzard is compoſed of thick muſcles: Therein we found nothing but ſmall ſtones and Sea-wrack.

We ſaw a Bird very like this, perchance the ſame, in his Majeſties Pools in S. *James*'s Park.

Its Bill and Legs were of a lead-colour: Its Head black. Its Wings little, but above the Wings the ſides white. A long creſt hangs down backward from behind the Head. [To me, beholding the Bird at a diſtance, the whole Wings ſeemed white, but perchance that colour was proper to the covert-feathers, not common to the quils.]

§. X.

The black Diver or Scoter: Anas niger minor.

IT is almoſt as big as the common *Duck*, but rounder-bodied. The whole body all over is of a black or ſable colour. From the Shoulders in ſome birds ſpring blacker feathers. In the Chin and middle of the Breaſt ſome aſh-coloured or whitiſh feathers are mingled with the black. The Wings are of the ſame colour with the body, without any diverſity of colours at all. The Bill ſuch as in the Duck-kind, yellow about the Noſthrils, elſe black; pectinated about the ſides, yellow within, without any bunch in the upper Mandible. Its Feet are black. This deſcription is of a Hen.

In the year 1671. I found the Male of this kind at *Cheſter*, killed on the Sea-coaſts thereabouts, and bought in the Market by my Lord Biſhop *Wilkins* his Steward, and deſcribed it in theſe words.

It is ſomething leſs than a tame *Duck*, ſhort-bodied for its bigneſs, and broad; all over black both upper and under-ſide: Only the Head had a dark tincture of purple, and the under-ſide of the firſt, ſecond, and third rows of Wing-feathers inclined to cinereous. The wings were ſhort; the quils in each twenty five. The Tail more than an hand-breadth long, conſiſting of ſixteen feathers, the outmoſt of which were the ſhorteſt, the reſt in order longer to the middlemoſt, which were the longeſt, ſo that the Tail runs out into an acute angle, more acute than I remember to have obſerved in other *Sea-ducks*; and each ſingle feather is very ſharp-pointed.

The Bill in this Bird is eſpecially remarkable, being broad, blunt, as in the reſt of this kind, of about two inches length, having no *Appendix* or nail at the tip, contrary to the manner of other *Ducks*. The upper Mandible above the Noſtrils, next the forehead, bunches out into a notable protuberance, being ſo divided in the middle as to reſemble Buttocks, diſtinguiſhed by a yellow intercurrent line. Now the colour of this upper Mandible is black about the ſides, yellow in the middle, the yellow part being ſo broad as to contain the Noſthrils, and about an inch long. The Tongue is very great. The Eye-lids yellow. The *Irides* of the Eyes dark. The Legs and Feet dusky: The Toes very long, and web'd together, ſo that its oars are broad and large. The ſhorter Toe hath a membranous border extant along its outſide. This had no labyrinth on its Wind-pipe. The blind-guts for a bird of this kind were very ſhort: The Gall great. It weighed two pounds and nine ounces: Its length from Bill to Tail was twenty two inches: It breadth from Wings end to Wings end thirty four and an half.

This Bird hath not as yet been deſcribed by any Author extant in Print that we know of. It abides conſtantly at Sea, gets its living by diving, and is taken in Nets placed under water. In the waſh in *Lincolnſhire* it is found plentifully. Its Caſe

ſtuft

ſtuft was ſent us firſt by Mr. *Fr. Jeſſop* out of *Yorkſhire:* Next we got it at *Cheſter*, as we have ſaid: Then Sir *Thomas Brown* ſent us a Picture of it from *Norwich*; and laſtly, Mr. *Johnſon* ſent a deſcription of it in his method of Birds, in which deſcription are ſome particulars not obſerved by us, *viz.* that the Male hath on the upper ſide ſome tincture of ſhining green, and that in the Hen the Neck and Head on both ſides, as far as the Eyes, is white.

§. XI.

The Poker, or Pochard, or great read-headed Wigeon: Anas fera fuſca *of Geſner, Aldrov.* t. 3. p. 221. Penelops veterum & Rothalſs *of Geſner, Aldrov.* p. 218. Cane a la teſte rouge *of Bellonius.*

THat we deſcribed weighed thirty two ounces: From tip of Bill to end of Tail was nineteen inches long, to the Claws points twenty one. It is bigger than the common *Wigeon*, and for its bigneſs ſhorter and thicker. The leſſer covert-feathers of the Wings, and thoſe on the middle of the back are moſt elegantly variegated with dark brown and cinereous waved lines [or aſh-coloured, with very narrow, waved, croſs, dusky lines.] The Rump and feathers under the Tail are black, ſo that the Tail is compaſſed with a ring of black. The lower part of the Neck is likewiſe black, ſo that the forepart of the body ſeems alſo to be encircled with a ring or ſwathe of black. The Head and almoſt the whole Neck are of a deep fulvous or red colour: the middle part of the Breaſt white, the ſides and lower part, and Belly all of the ſame colour with the Back, and varied with the like tranſverſe undulated lines, but both colours paler: Toward the Vent it is by degrees darker coloured. The Tail is very ſhort, not exceeding two inches, made up of twelve feathers, of a dark grey, the outmoſt the ſhorteſt, the reſt gradually longer to the middlemoſt; yet the exceſs is not conſiderable, ſo that notwithſtanding it is not to be reckoned among thoſe that have ſharp Tails. The quils of the Wings are about twenty five, all of one colour, *viz.* a dark cinereous, though if they be carefully heeded, there will appear ſome diverſity, for the tips of the exteriour and greater feathers are marked with black, of the middle ones with white. The interiour baſtard-wing and leſſer covert-feathers of the underſide of the Wings are white.

The Bill is bigger and broader than in the *Wigeon.* The feathers divide the middle of the upper Mandible coming down from the forehead in form of a peak or acute angle. The upper Mandible is of a lead-colour, but its tip black: The nether is wholly black. The *Irides* of the Eyes are of a very beautiful colour, from yellow inclining to a ſparkling red: The Feet lead-coloured: The membranes connecting the Toes black: The inmoſt toe the leaſt, having a membranous border annexed to its outſide. The back toe hath likewiſe an appendant membrane or fin.

The characteriſtic note of this Bird, is one uniform colour of its Wings, without any feathers of different colour in the middle of the Wing, as is uſual in moſt Birds of this kind.

In another Bird of this kind, (which we take to be the Female of this) the Bill was black with an aſh-coloured ſpot of the form of a creſcent a little above the tip. The back feathers and coverts of the Wings had no ſuch tranſverſe waved lines as thoſe of the Male. In other points it agreed moſtwhat with the Male.

§. XII.

The leſſer red-headed Duck: Perchance the Anas Filigula altera *of Geſner, Aldrov.* p. 227. *The* Glaucium *or* Morillon *of Bellonius:* Capo roſſo *at Venice.*

IT is bigger than a *Teal*, and ſomething leſs than a *Wigeon.* Its Bill two inches and an half long, of a moderate breadth, of a dark blue colour, paler about the edges, and toward the tip. The very tip or nail is round and black. The Noſthrils ſmall, long, ſituate almoſt in the middle of the Bill. The *Irides* of the Eyes of a cream or Ivory colour. The Head is pretty great, all over red: But in the very angle of the lower Mandible is a ſmall white ſpot. The Neck, as in others of this kind, is ſhort, encompaſſed in the middle with a ring of brown. The whole Back and covert-feathers of the Wings are of a dark brown or dusky colour. All the quils of the Wings (which are in each about twenty ſix) except the three or four outmoſt, and the three or four inmoſt

inmoſt are white with brown tips, ſo that when the Wing is ſpread they repreſent a broad tranſverſe line of white. The Tail is very ſhort, the middle feathers which are the longeſt being about two inches and a quarter in length, the outmoſt ſhorter; of a brown or dusky colour, the number of feathers fourteen. The Breaſt below the ring down to the Merry-thought is red, which colour above alſo reaches to the middle of the Shoulders. The reſt of the Breaſt and the upper Belly is white, the lower to the Vent dusky or dark grey. The feathers under the Tail are white, thoſe long ones on the thighs red. The Legs and Feet black, eſpecially the joynts and membranes connecting the Toes. The back-toe hath a broad appendant membrane or fin, as in the reſt of this kind. The Wind-pipe hath a labyrinth at the divarication, and beſides above ſwells out into a puff-like cavity. The ſtomach is muſculous. Theſe Birds vary ſomething in the colour, eſpecially of their Wings.

A Bird of this kind weighed twenty one ounces; was in length from the tip of the Bill to the end of the toes ſeventeen inches and an half; in breadth between the extremes of the Wings expanded twenty ſix and three quarters: The length of the guts forty two inches.

* *Ornithol.* p. 227. The deſcription of the *Anas Fuligula altera* of *Geſner* in * *Aldrovand* agrees well to this Bird: So doth alſo the deſcription and figure of the *Morillons* or *Glaucium* of *Bellonius*, eſpecially in the colour of the Eyes. But becauſe there is ſome difference, we will ſubjoyn his deſcription that the Reader himſelf may judge.

The Glaucium *or* Morillon *of Bellonius.*

There is (ſaith he) alſo another Water-fowl, called in our common ſpeech *Morillon*, very like to a *Duck*, and of the ſame bigneſs, having its Bill cut in the edge like a Saw; its Legs and Feet red on the inſide, dusky on the out: Its whole Head to the middle of the Neck of a deep ferrugineous. Below the ferrugineous a whitiſh circle encompaſſeth the Neck. The Breaſt is of an aſh-colour, the Belly white: The Back and Wings black. But in theſe, if they be ſtretcht out appear ſeven white feathers, which render the Wings particoloured as in a *Pie*. The reſt of the Wings, as alſo the Tail (reſembling that of a * *Cormorant*) are black. Getting its food for the moſt part out of the water, it lives upon little vermine and creeping things, which it finds in the bottom of the water: Diving alſo, and continuing long under water, it catches ſmall fiſhes, and water *Millepedes* or Lice, which the *French* call *les Eſcrouelles*. It feeds alſo upon the ſeeds of herbs which grow on River-banks, and upon young *Cray-fiſh* and Snails. It hath a Tongue ſo fleſhy, that near the root it ſeems double: A broad Breaſt, like the reſt of the Duck-kind: Short Legs, ſtretched out backwards, like the *Divers* [*Mergi.*] In the inward parts this only is peculiar to it, that no Gall appears in it. The Liver is divided into two Lobes, one whereof is incumbent on the ſtomach, the other on the guts.

* *Corvus aquaticus.*

This deſcription in moſt notes, the magnitude excepted, agrees to our Bird. For though *Bellonius* in his deſcription affirms, that the ring about the Neck is white, yet in his figure he repreſents it black.

§. XIII.

The Golden-eye: Anas platyrhynchos mas, *Aldrov.* p. 225. Clangula Geſneri, *Aldrov.* p. 224. * Quattro occhii *Italis:* Weiſſer Dritvogel *of the Germans about Strasburgh.*

* That is, four eyes.

IT is thick and ſhort-bodied; and hath a great head. Its Neck, as in the reſt of this kind, is ſhort: Its Bill broad indeed, but ſhort; more elevated, and not ſo flat or depreſſed as in the reſt of this kind, thicker at the head, leſſer and narrower toward the tip; all black, from the tip to the angles of the mouth an inch and three quarters long. The Head is of a very dark green, or of a changeable colour of black, purple, and green, as it is variouſly expoſed to the light, ſhining like ſilk. At the corner of the Mouth on each ſide is a round white ſpot, as big as a three pence, whence it got its name *Quattr' occhii* in *Italian*. The *Irides* of the Eyes are of a lovely yellow or gold-colour. The whole Neck both above and underneath, the Shoulders, Breaſt, and whole Belly are white: The ſpace between the Shoulders and all the lower part of the Back are black. The Wings particoloured of black and white, *viz.* the middle feathers, both quils and coverts, are white; the outer and inner black. To ſpeak more exactly: The fourteen outmoſt Quils are black; the ſeven next white; the four inmoſt again black.

black. The covert-feathers above the seven white ones are white, all but those near the ridge of the Wing. But the bottoms of those of the second row are black half way up. The long scapular feathers are also mixt or particoloured of black and white. The Tail is three inches and an half long, made up of sixteen feathers, from the outmost by degrees longer, yet is not the Tail sharp, but rather round-pointed, all of one uniform black colour.

The Legs are very short, of a Saffron or yellowish red colour, as are also the Feet. The Toes are long, dusky about the joynts; the outmost the longest; the inmost hath a broad appendant membrane. The membranes connecting the Toes, and the Claws are black. The back-toe is small, having also a broad appendant membrane or fin. The Wind-pipe hath a labyrinth at the divarication, and besides, above swells out into a Belly or puff-like cavity.

Its weight was about two pounds, its length from Bill to Claws nineteen inches: its breadth thirty one.

These Birds are very common at *Venice* in *Italy*, and not rare upon our Sea-coasts.

Our smaller reddish-headed Duck, which it seems is no other than the Female of the precedent: Perchance the Anas Schollent *of Gesner, or the* Anas fera fusca alia *of Aldrovand*, p. 222.

It is about the bigness of the *Anas fuligula prima* of *Gesner*: Weighs twenty four ounces; is from Bill to Claws seventeen inches long. It hath a great Head, of a sordid red colour: A short Neck of a grey or hoary: A white Breast and Belly: Its Back, Tail, most of the covert-feathers and ten outmost quills of the Wings are of a dark brown or black. The quil-feathers from the tenth to about the twentieth are white. ~~In the lesser rows of covert-feathers is also a great spot of white.~~ [The second row of Wing-feathers, as many as are incumbent on the white quils, are white, but tipt with black.] In the lesser rows of wing-feathers there is also a large white or ash-coloured spot: So that in some the whole Wing almost seems to be white. The Wings are small for the bigness of the Bird, their feathers being short. The Tail is made up of sixteen feathers, and is for this kind long. The Bill is shorter and narrower than that of the *tufted Duck*, thick at the head, sharper toward the tip, the extreme hook or nail being black, and encompassed by a broad yellow space, very elegant to behold; the rest of the Bill black. The Eyes were of a lovely yellow or gold-colour. The Feet large, situate backwards, of a yellowish red colour, the Web of the Feet dusky; the soal black. I observed no labyrinth on the Wind-pipe, It hath a small Gall-bladder of an oval figure. In the Craw we found a Crab-fish.

Since the finishing of the *Latine* History we have been informed that this Bird is no distinct kind, but only the Female *Golden-eye*. And truly, the shape of the body, the make of the Bill, the length, number of feathers, figure and colour of the Tail, the fashion and colour of the Feet, and other accidents induce us to think so, neither is there more difference in weight than is usual between different Sexes. Besides that, this was a Female the want of the labyrinth proves; but in the next Article I shall shew some reason to doubt whether of the *Golden-eye* or not. Mr. *Willughby* also was suspicious that it might be the Hen *Golden-eye*.

§. XIV.

The greater reddish-headed Duck, perchance the same with the last described, or the Male thereof: An Anas Schellent dicta Gesnero? *Aldrov.* p. 223.

IT weighed twenty four ounces, being in length from the tip of the Bill to the end of the Tail eighteen inches and an half, to the end of the Toes nineteen; in breadth the Wings being spread out, thirty. The Bill two inches long, yellow, not only about the tip, like the precedents, but also of a sordid or dark yellow all along the middle beyond the Nosthrils. The *Irides* of the Eyes are of a bright lovely yellow: The Head of a sordid red: the Neck grey. For that chesnut or red colour of the Head extends not to the middle of the Throat. The Back and whole upper side are of a dark brown or black. The Throat, Breast, Belly to the very Tail white; but at the Vent is a cross bar of brown.

Each Wing hath about twenty ſix quils; of which the outmoſt ten are black, the tip of the eleventh white; in the ſucceeding the white increaſes, till after three or four it reaches to the bottom. The twentieth or twenty firſt hath its exteriour half white, its interiour black. [There is ſome variety in ſeveral Birds in the colours of theſe feathers.] The feathers immediately above the white feathers are alſo white: Beſides, in the leſſer covert-feathers is a great ſpot of white in ſome birds, of grey in others. The Legs and Feet are of an obſcure, ſordid yellow, but about the joynts black. The web of the Foot is alſo black. The Legs are ſituate backwards, as in the reſt of this kind, feathered down almoſt to the knees, the Shanks ſhort, but the Feet large: The inmoſt Toe hath a membrane bordering on the outſide of it. The hind-toe hath alſo its membrane annext. The Tail is three inches and an half long, made up of ſixteen feathers, of the ſame colour with the Back.

I ſhould take this Bird to be the very ſame with the precedent, not only in *Species*, but in Sex, notwithſtanding its difference in bigneſs, were it not that it had a labyrinth on the Wind-pipe, which I ſuppoſe is proper only to the Males. So that either this is the Male of the precedent, and both different in ſpecies from the *Golden-eye*: Or, which I rather incline to believe, this muſt be a young *Cock-Golden-eye*, that had not moulted its chicken-feathers; and the precedent an old *Hen-Golden-eye*: And ſo theſe two ſuppoſed *Species* are reduced to the *Golden-eye*; they being all three the ſame.

§. XV.

The Shoveler. Anas platyrhynchos altera ſive clypeata Germanis dicta: Taſchenmul
* Tom. 3. pag. 224. * *Aldrov.* Anas latiroſtra major, *Geſner. Aldrov.* p. 227. Breitſchnabel Germanis.

IT is ſomething leſs than the common tame *Duck*, weighs twenty two ounces, being in length from the tip of the Bill to the end of the Tail twenty one inches. Its Bill is three inches long, coal-black, much broader toward the tip than at the baſe, excavated like a Buckler, of a round Circumference. At the end it hath a ſmall crooked hook or nail. Each Mandible is pectinated or toothed like a comb, with rays or thin plates inſerted mutually one into another when the mouth is ſhut. The Tongue is fleſhy, thick, broad, eſpecially toward the tip; but the tip it ſelf is thinner and ſemicircular. The Eyes are of a deep yellow: The Legs and Feet of a Vermilion colour: The Claws black: The hind-toe little. The membrane connecting the Toes ſerrate about the edges. The Feet are leſs than inothers of this kind.

The Head and Neck almoſt half-way are of a fair blue. [In the Bird which I deſcribed at *Rome*, and in another which Mr. *Willughby* ſaw at *Crowland* it was very
* Blackiſh. * dark, lightly tinctured with a deep ſhining green.] The under-ſide of the Neck and region of the Craw are white; the upper-ſide and Shoulders particoloured of white and brown. The reſt of the Breaſt and the whole Belly to the Vent are red. Behind the Vent the feathers under the Tail are black. The Back is brown, with a light daſh of a ſhining green, blue or purple colour. The feathers covering the outſide of the Thighs are adorned with tranſverſe dusky lines, as in many others.

The number of quils in each Wing is about twenty four: The ten or twelve outmoſt whereof are wholly brown: The next nine have their outer edges of a deep ſhining green: The four next the body are varied in the middle and about their edges with white lines. The feathers of the ſecond row incumbent on the green quil-feathers have white tips, which together taken make a croſs line of white in the Wing. The leſſer covert-feathers of the Wing, excepting thoſe on the outmoſt bone, are of a pleaſant pale blue, inclining to aſh-colour. The Tail is about three inches and an half long: conſiſts of fourteen feathers, particoloured of white and black, the outmoſt feathers being wholly white, the middlemoſt, except the extreme white edges, wholly black, the reſt black in their middle parts, white about the borders or outſides.

At the divarication of the Wind-pipe it hath a ſmall labyrinth: A large Gall: Oblong Teſticles: A ſmall muſculous Stomach or Gizzard: Guts many times reflected, very long. The Female in reſpect of colours both in the Head and Neck, and alſo in the whole body, upper-ſide and under-ſide, excepting only the Wings, is very like to a wild Duck. The Wings are of the ſame colours with the Wings of the Male, but more dull, and not ſo bright and pleaſant. The Fowlers affirm, that theſe Birds change their colours in Winter. *Geſner* and *Aldrovand* ſet forth this kind twice or thrice

thrice under ſeveral titles. It is ſufficiently characterized and diſtinguiſhed from all others of this kind by the breadth and bigneſs of its Bill.

§. XVI.

* *The broad-bill'd, red-footed Duck of Aldrovand, which I take to be the Hen-*Shoveler. * *Anas platyrhynchos erythropus.*

THe Legs and Feet wholly are of a deep red. The Bill is almoſt three inches long, very broad, and * turning up after the faſhion of a Buckler, of a dark cheſnut colour; yet the lower Mandible, which almoſt enters the upper [being received into it] is in ſome places of a ſpadiceous colour, and hath a remarkable ſtrake running through its middle long-ways. The Bill hath ſuch teeth on both ſides as *Geſner* attributes to his * *Muggent.* The colour of the feathers, almoſt the whole body over, comes near to that of pulveratricious birds [*Partridge* and *Quail*, &c.] called πεφαμνῶς, that is, teſtaceous or pot-ſheard colour. [Their pots were paler than ours now adays.] The whole Head and middle of the Neck were of a * *Weaſel* colour, ſprinkled with greater and leſſer ſpots, partly white, and thoſe very ſmall and ſcarce conſpicuous, partly brown, and thoſe moſt in the crown and hinder part of the Head. The Neck underneath is of a pale whitiſh cinereous colour, with ſemilunar brown ſpots. The ſame ſpots, but greater, are diſperſed over the fore-part of the Back, the Breaſt, the Belly, the Rump, and the Tail, all which parts are of the ſame colour with the Head, or yellowiſh. The middle and lower part of the Back are covered with feathers of a dark ſpadiceous colour, only white about the outmoſt edges. The ridges of the Wings are of a Woad colour. A line of the ſame colour croſſes the middle of the Wings, above which is likewiſe ſeen a tranſverſe white line. The remaining parts of the Wings are of a dark ſpadiceous colour.

* *Recurvum.*

* *Anati muſcariæ.*

* *Muſtelinæ coloris.*

§. XVII.

* *A broad-bill'd Duck with yellow Feet, of Aldrovand.*

IT differs little from the precedent in magnitude, unleſs perchance it be ſomwhat bigger. Its Bill is partly brown, partly yellowiſh. Over the whole body, which is of a yellowiſh aſh-colour, are brown ſpots diſſeminated, thick-ſet, and little in the Head, greater, and thinner, or more ſcattering in the Neck, Breaſt, Belly, Rump, and Tail, but much greater yet and thicker in the whole Back. The Wings to the middle part are brown. A white line croſſes them in the middle; after which is ſeen a * ſquare blue ſpot, three angles whereof end in a black line: To this ſucceeds a white line. Its Legs are yellow; its Toes alſo yellow, but connected by dusky membranes.

* Or four corner'd.

This ſeems to be ſome Hen-bird of the Duck-kind, not hitherto obſerved by us.

Chap. III.

Pond-Ducks, frequenting chiefly freſh waters.

§. I.

The common wild Duck and Mallard: Boſcas major; Anas torquata minor * *Aldrov.* * Tom. 3. pag. 212.

IT weighs from thirty ſix to forty ounces; being about twenty three inches long, meaſuring from the tip of the Bill to the end of the Tail. The Wings ſtretcht out reacht thirty five inches. The Bill is of a greeniſh yellow, from the angles of the mouth produced two inches and an half, of about an inch breadth, not very flat. The upper Mandible hath at the end a round tip or nail, ſuch as is ſeen in moſt Birds of this kind. The lower Eye-lids are white: The Legs and Feet of a Saffron-colour; the Claws brown; but that of the back-toe almoſt white: The inmoſt fore-toe is the leaſt. The membranes connecting the Toes are of a more ſordid colour than the Toes. The Wind-pipe at its divarication hath a veſſel we call a labyrinth.

The Legs are feathered down to the Knees. In the *Mallard* the Head and upper part of the Neck are of a delicate ſhining green: then follows a ring of white, which yet fails of being an entire circle, not coming round behind. From the white ring the Throat is of a Cheſnut colour down to the Breaſt. The Breaſt it ſelf and Belly are of a white aſh-colour, bedewed or ſprinkled with innumerable dark ſpecks, as it were ſmall drops. Under the Tail the feathers are black. The upper ſide of the Neck from cinereous is red, ſprinkled in like manner with ſpots. The middle of the Back between the Wings is red, the lower part black, and ſtill deeper on the Rump, with a gloſs of purple. The ſides under the Wings, and the longer feathers on the Thighs are adorned with tranſverſe brown lines, making a very fair ſhew. In them the white colour ſeems to have a mixture of blue.

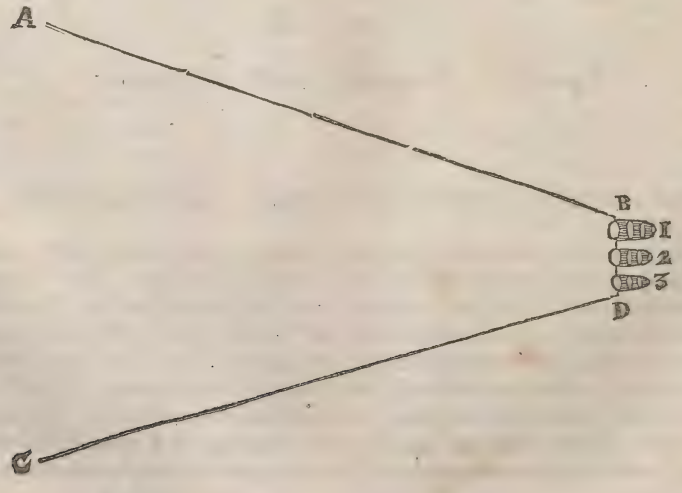
The leſſer rows of Wing-feathers are red: The long ſcapular feathers are ſilver-coloured, elegantly variegated with tranſverſe * brown lines. In each Wing are twenty four quils, the outmoſt ten of a dusky or dark brown: The ſecond decad have white tips, then their outer Webs are of a ſhining purpliſh blue colour: But between the white and blue intercedes a border of black. The tip of the twenty firſt is white, the exteriour Web of a dark purple: The middle part of the twenty ſecond is a little ſilver-coloured: The twenty third is wholly of a ſilver-colour, yet the edges on each ſide are black: The twenty fourth is likewiſe of a ſilver-colour, only the exteriour border black. The outmoſt covert-feathers are of the ſame colour with the quils; but thoſe immediately incumbent on the purple-blue quils have black tips, and next the tips a broad line or croſs bar of white, ſo that the blue ſpot is terminated with a double line, firſt black, and above that white. The Tail hath twenty feathers, ending in ſharp points. The four middle of theſe are reflected circularly toward the Head, being black, with a gloſs of purple. The eight next to theſe on each ſide are white, eſpecially the outer ones, and on their exteriour Webs, the nearer to the reflected ones, the greater mixture of brown have they. The covert-feathers of the inſide of the Wing, and the interiour baſtard Wing are white.

* *Fuſcis*, dusky.

In Winter time they company together, and fly in flocks; in the Summer by pairs, *Duck* and *Mallard* together. They build their Neſts among Heath or Ruſhes, not far from the water, ſeldom in trees; laying twelve, fourteen, or more Eggs before they ſit. The Female or Duck hath neither green head, nor ringed Neck, but both particoloured of white, brown, and dark red. The middle parts of the Back-feathers are of a dark brown, the edges of a pale red.

As for the great *Ring-Duck* of *Geſner*, he being very brief in deſcribing of it, and uſing only general notes, and my ſelf having never ſeen any ſuch bird, I know not what to make of it, and do doubt whether there be any ſuch Bird in nature; eſpecially becauſe the deſcription he brings of it, made by a certain *German*, doth in all things anſwer to our *Mallard* above deſcribed.

In the Fens in the Iſle of *Ely*, *Norfolk*, and *Lincolnſhire*, about *Crowland*, and elſewhere, *Ducks*, *Wigeons*, *Teal*, and other birds of this kind, at what time they moult their feathers and cannot fly, are taken yearly in great numbers in Nets placed after this manner.



AB, CD

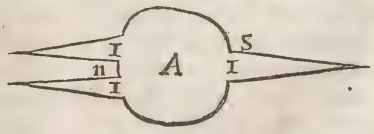
AB, CD are Nets extending a great length in form of a wall or hedge, inclining one to another, at the further end of which, before they concur in an angle are placed 1, 2, 3, or more conoideal Nets, like tunnelling Nets for *Partridges*. Which things being ſo prepared, and the day for fowling ſet, there is a great concourſe of men and boats. Theſe drive the Birds, now unable to fly, into the grounds encloſed in the Nets with long Staves and Poles, and ſo by degrees into thoſe Conoideal Tunnels, 1, 2, 3, diſpoſed, as we ſaid in the angle. By the way many are knocked down by the Boatmen and other Rabble with their Poles, others and more are driven upon the ſide Nets A B, CD. Theſe belong to them who own the Nets (for the Nets for the moſt part have ſeveral owners) thoſe fall to their ſhares that killed them. Thoſe which are cooped up, and driven into the end-tunnels 1, 2, 3, belong to the Lord of the Soil. To one Fowling ſometimes you ſhall have four hundred Boats meet. We have heard that there have been four thouſand Mallards taken at one driving in *Deeping* Fen.

The *Mallards* change their feathers (we call it *Moulting*, a word derived from the Latine, *muto*, ſignifying to change) when the Hens begin to ſit; the Ducks not before their young ones are grown up and ready to fly, at what time they come hither for that purpoſe, *viz.* the *Mallards* about the end of *May*, the *Ducks* not before the end of *June*, when the *Mallards* have recovered their feathers and begin to fly again. The Cock-*Teal* and *Wigeons* accompany the *Ducks*, and moult together with them. The Hens of theſe Birds moult ſomething later. So that this kind of ſport or (if you pleaſe) exerciſe laſts from the middle of *June* till the end of *Auguſt*. In a Weeks time all the old feathers fall off; the new ones come not to their full growth in leſs than three Weeks ſpace. When they begin to moult they are all very fat and fleſhy; but before their feathers be perfectly grown, they become lean. The *Ducks* and *Mallard* are called *whole fowl*; the *Wigeons* and *Teal half fowl*, becauſe they are ſold for half the price of the other.

Here it may be worth the while to enquire, why Birds do yearly moult their feathers? Mr. *Willughby* ſuppoſes that there is the ſame cauſe of the caſting the feathers in Birds, that there is of the falling off of the hair in Men and other Animals upon recovery from a Fever or other diſeaſe, or upon refection after long abſtinence. For in Cock-birds the heat and turgency of luſt, is, as it were, a kind of Fever, and ſo in the Spring-time their bodies being exhauſted by the frequent uſe of Venery, they become lean: But in the Hens the time of ſitting and bringing up their Young anſwers to a diſeaſe or long abſtinence, for at that time they macerate themſelves by hunger and continual labour. When theſe times are over, both Sexes returning to mind their own bodies and feed for themſelves, do in a ſhort time recover their fleſh and grow fat again, whereupon the pores of the skin being dilated the feathers fall off.

Our Country-men (imitating, as I ſuppoſe, the *Low Dutch*, who were Authors of the invention) in maritime and fenny places, in Pools prepared by a new Artifice and fitted with their Channels and Nets, and ſtored with Coy-Ducks, take yearly in the Winter-time *Duck* and *Mallard*, *Wigeon*, *Teal*, and other Birds of the Duck-kind in great numbers.

A place is to be choſen for this purpoſe far remote from common High-ways, and all noiſe of people, and in which thoſe Birds are wont in great numbers to frequent. Having pitch'd upon a convenient place, prepare a large Pool A, ſet round with Willows and Reeds. On the South ſide N, or the North ſide S of this Pool draw as many Ditches or Channels 1 1 1 (Pipes they call them) as you pleaſe or think needful; let them be broad at the Pool, and by degrees narrower till they end in a point. Along theſe Channels on each ſide at little diſtances thruſt into the banks rods or wands of wood, and bending them over-head bind them two together by pairs all along in form of an Arch or Vault from the beginning of the Channel to the end. As the Channels grow narrower and narrower ſo the bows are made lower and lower. The Poles thus bent in faſhion of Bows are to be covered with Nets caſt over them, and ſo the Pipes are made: Theſe Arches or Vaults end in long Cylindrical Nets kept ſtretcht by hoops like bow-nets, that end which reſpects the Arch being open, the other ſhut. Along the banks of the Pipes are made many hedges or walls n n n of Reeds woven thick together, parallel to each other, but ſtanding obliquely to the Bank, the acute angles reſpecting the Pool, and along the bank of the Pool, at the *exit* of the Pipes is likewiſe a



hedge

hedge of Reeds (1 m) to be drawn. The *Coy-Ducks* are to be fed at the mouth or entrance of the Pipes, and to be accuſtomed at a token given them by a whiſtle to haſten to the Fowler. The Fowler firſt walks about the Pool, and obſerves into what Pipe the Birds gathered together in the Pool may moſt conveniently be enticed and driven, and then caſting Hemp-ſeed, or ſome ſuch like thing at the entrance thereof, calls his *Coy-ducks* together by a whiſtle. The wild fowl accompany them, and when the Fowler perceives them now entred into the Pipe, he ſhews himſelf behind them through the interſtices of the hedges n, n, n, which being frightned, and not daring to return back upon the man, ſwim on further into the *Pipe*, then by other interſtices the Fowler ſhews himſelf again behind them, till at laſt he hath thus driven them into the Cylindrical Nets. If any Birds riſe and endeavour to fly away, being beaten back by the Nets ſpread over the Pipe they fall down again into the Channel. The whole art conſiſts in this, that the Birds within the Pipes may ſee the Fowler, thoſe in the Pool not ſeeing him. So thoſe only ſeeing him, theſe notwithſtanding often enter the *Pipes*, and ſo ſometimes beſides thoſe the Fowler drives before him there are others taken the ſecond or third time. The *Coy-ducks* go not into the Cylindrical Nets, but ſtay without and entice others. Some train up a Whelp for this ſort of fowling, teaching him to compaſs the hedges, and ſhew himſelf behind the Birds, to which purpoſe there are holes made in the hedges for him to paſs freely. The Whelp in compaſſing the hedges ought always to keep his tail directed toward the Pool, his Head toward the Pipe, and ſo he terrifies the Birds before him, and drives them forward: Thoſe behind him he allures and tolls forward, they following him to gaze at him as a new and ſtrange object. When the wind blows ſideways the Birds are more eaſily driven whither the Fowler pleaſes, than when its blows * directly contrary to them, or with them. For when it is directly contrary the Birds are very hardly driven to bear up againſt it: When it blows juſt behind them, it brings the ſent of the Man or the Whelp into their Noſthrils. Wherefore (as we ſaid) the Channels are drawn either on the North or South end of the Pool, becauſe the Weſt-wind with us as it is the moſt boiſterous, ſo is it by far the moſt frequent of all.

* Lies in their faces, or on their backs.

Of the *Coy-ducks* ſome fly forth and bring home with them wild ones to the Pool, others have the outmoſt joynt or pinion of their Wings cut off, ſo that they cannot fly, but abide always in the Pool. The Fowlers houſe is to be covered with trees and reeds, and hid as much as poſſible.

§. II.

* *Anas mediæ magnitudinis.*

The Gadwall or Gray, perchance the * Mitelenten *of Geſner:* Anas platyrhynchos roſtro nigro & plano. *Aldrov.* p.233. fortè Anas ſtreperaGeſneri, *Aldrov.* p.234.

IN bigneſs it equals or exceeds the *Pochard*, and comes very near the *Duck*. Its length from Bill to Tail was nineteen inches: Its breadth thirty three: Its Bill from the tip to the corners of the mouth two inches long. It is long-bodied: Its whole Rump black: Its Back brown, the edges of the feathers being of a whitiſh red: Its Chin and Cheeks white, ſpeckled with ſmall brown ſpecks. Its head from blue inclines to black, the edges of the feathers being of an aſh-colour in the Throat, and of a whitiſh red near the Breaſt. The lower part of the Neck and upper part of the Breaſt and Shoulders are covered with a moſt beautiful Plumage particoloured of black and white. The extreme edges and as it were fringes of the feathers are reddiſh, then a black line of a ſemicircular figure encompaſſes the tip of the feather, running parallel to its edges; within this is included another ſemicircular white line parallel to it, and in the white again a black. The Breaſt is white: The Belly darker, with tranſverſe black ſpots. Under the Tail the feathers are croſſed with brown. The leſſer covert-feathers under the Wings and the interiour baſtard Wing are purely white. The ſides are curiouſly variegated with alternate black and white lines. The Tail is ſhort, ſcarce appearing beyond the feathers incumbent on it, round-pointed, made up of ſixteen feathers with ſharp tips, of a white colour, eſpecially on the under ſide, for the two middle ones above are of a dark aſh-colour: In the reſt, eſpecially the outmoſt, there is ſomething of red mingled with the white: The edges of all are whitiſh.

Each Wing hath twenty ſix quils, of which the firſt ten are brown; the three next tipt with white: The four following have their outer Webs black, their tips alſo being whitiſh: In the three ſucceeding the inner Web of the feather is wholly white:

The

The four next the body are of a cinereous or reddish brown. The feathers of the second row, incumbent on the white quils, have their exteriour Webs of a black purplish shining colour. In the third row are spots of red scattered.

Its Bill is like that of the common *Duck* or *Teal*, flat, broad, with a hook or nail at the end: The lower Mandible inclines to a Saffron colour; of the upper the sides are of the same colour, the middle part black: The Nosthrils great.

The Legs are feathered to the Knees: The Feet whitish: The hind-toe small: The inner fore-toe shorter than the outer: The membranes connecting the Toes black. It hath a huge Gall-bladder.

The Female hath the same spots in the Wings, but far duller colours; wants the black colour on the Rump, the feathers there growing having pale red edges, as have also those on the Back and Neck. It wholly wants those elegant semicircular black and white lines and spots in the Neck and Breast feathers, and the strakes under the Wings.

This Bird may be distinguished from all others of the *Duck-kind* by this characteristic note, that it hath on the Wings three spots of different colour, one above another, *viz.* a white, a black, and a red one.

§. III.

* *Gesners Muggent:* Anas muscaria, *Aldrov.* lib. 19. cap. 41.

IT is so called because it catches flies flying upon [or above] the water. It is of the bigness and shape almost of a tame *Duck*. The Bill is broad and flat, its upper Chap being wholly of a Saffron-colour, in length beyond the feathers two inches: it is serrate on both sides with broad and in a manner membranaceous teeth, pretty high or deep; but those of the nether Chap are lower, and *rise not much, making long *striæ*. The Plumage almost all the body over is particoloured of blackish, fiery colour, and white, with a mixture of Weasel colour in some places, or in short almost like that of the *Partridge*, that is, testaceous, as of most of the pulveratricious kind, but yet differing. Its Feet are yellow: Its Toes joyned by blackish membranes: Its Neck both on the upper and under side is speckled [στικτόν] with the colours we mentioned. The crown of the Head is blacker than the other parts, which colour also is seen in the Wings, which are shorter than the Tail. Thus far *Gesner*. This Bird, if it be different from the *Gadwall*, as the colour of the Bill and Feet might perswade one, is to me unknown.

* Stand up or out but very little.

§. IV.

The common Wigeon or Whewer: Penelope Aldrovandi, *tom.* 3. *p.* 218. *lin.* 30. Anas fistularis, *Argentoratensibus* Ein Schmey.

IT weighs twenty two ounces: Its length from Bill to Feet is twenty inches. The Head and upper end of the Neck are red. The crown towards the Bill is of a dilute colour, from red inclining to a yellowish white. The upper part of the Breast and sides as far as the Wings is beautified with a very fair tincture of a red Wine colour, with small transverse black lines. The scapular feathers, and those on the sides under the Wings are very curiously varied with narrow transverse black and white waved lines. The middle of the Back is brown, the edges of the feathers being cinereous, especially towards the Tail. The feathers behind the Vent, next the Tail are black: The Breast and Belly white, with a little mixture of yellow. On both sides under the Legs are spots of a reddish brown: Under the Tail are white feathers alike spotted, mingled with the black. The Tail is sharp pointed, and consists of fourteen feathers, of which the six outer on each side are brown, their exteriour edges being whitish; the two middle ones are black, with a mixture of ash-colour.

Of the quil-feathers the ten outmost are brown: The next ten have white tips, and among them the fifteenth, sixteenth, seventeenth, and eighteenth have their outer webs first of a black purplish colour, then as far as they appear beyond the covert-feathers of a lovely blue. In the eighteenth feather the exteriour half of the outer web is of a purplish black, the interiour toward the bottom is cinereous: But along the border of the black are small white spots from the white tip to the bottom. The twentieth feather is all of a pale or white ash-colour: The twenty first and

twenty

twenty ſecond are white about the edges, black in the middle along the ſhaft. The ſmall covert-feathers of the Wings are of a light brown or dark aſh-colour; but thoſe that cover the quils from the tenth to the twentieth are particoloured of brown, white, and cinereous.

Mr. *Willughby* in this and other Birds is, in my opinion, more particular and minute in deſcribing the colours of each ſingle feather of the Wings and Tail than is needful; ſith in theſe things nature doth as they ſay ſport her ſelf, not obſerving exactly the ſame ſtrokes and ſpots in the feathers of all Birds of the ſame ſort.

In the ſtructure of the Mouth, Tongue, and Head, it differs little from the common wild *Duck*, unleſs perchance the Head be leſs in proportion to the body. The upper Mandible of the Bill is of a lead-colour, with a round black nail at the end. The Feet from a dusky white incline to a lead-colour. The Claws are black: The outmoſt Toe longer than the inmoſt: The back-toe ſhort.

It feeds upon graſs and weeds growing in the bottoms of Rivers, Lakes, and Channels of water, alſo upon Whilks, Periwinkles, *&c.* that it finds there. The Males in this kind at *Cambridge* are called *Wigeons*, the Females *Whewers*.

The fleſh of it for delicacy is much inferiour to that of *Teal*, or indeed *Wild-Duck*.

§. V.

The Sea-Pheaſant or Cracker: Anas caudacuta, *Aldrov.* tom. 3. pag. 234. Coda lancea *at Rome.*

IT is of the bigneſs of the common *Wigeon*; of twenty four ounces weight: twenty eight inches long from Bill to Tail: From tip to tip of the Wings extended thirty ſeven inches broad.

Its Head is ſlender, its Neck long for this kind: Its Bill from the tip to the angles of the mouth two inches and an half, of equal breadth almoſt throughout; the nether Mandible wholly black, the upper partly blue, partly black, *viz.* black in the middle, on the ſides beneath the Noſthrils blue: Black alſo at the corners of the mouth, at the very tip, and in the lower edges near the tip. The colour of the Plumage on the whole Head is ferrugineous or brown, behind the Ears tinctured with a light purple. Beyond the Ears on each ſide from the hinder part of the Head begins a line of white which paſſes down the ſides of the Neck to the Throat. All the feathers between or adjacent to theſe lines are black: Under the black the Neck is aſh-coloured, then curiouſly varied with tranſverſe black and white lines, as is alſo almoſt the whole Back. The long ſcapular feathers are black in their middle parts, but the exteriour have their outer Webs almoſt to the ſhafts black, their inner (which are much the narrower) varied with white and black [brown] lines. All the nether part, Neck, Breaſt, Belly, to the very Vent is white. Yet in the lower Belly the white is a little darkned with a mixture of cinereous. The feathers under the Tail are black.

As for the Wings, the ten outmoſt quils and moſt of the covert-feathers are of a dark cinereous [In ſome Birds the interiour edges of the ſeventh, eighth, ninth, and tenth quils are white.] The ſecond decad of quils is particoloured; for the tips of all are white, [or from white red] then in the outer Web ſucceeds a black line, the remaining part thereof, as far as appears beyond the incumbent feathers being of a gliſtering purple, or purpliſh blue colour: The interiour Webs of all are of the ſame colour with the reſt of the feathers. Of the following the exteriour Webs are cinereous, the interiour black. The covert feathers of the ſecond row immediately incumbent on the ſecond decad of quils have their tips of a fair red or *Lion*-colour. The long feathers covering the Thighs are elegantly varied with black and white tranſverſe lines, beneath which the Plumage is yellow.

The Tail is made up of ſixteen feathers, all aſh-coloured excepting their exteriour edges, which are whitiſh. The two middlemoſt run out into very long and ſharp points, being produced two inches and an half beyond the reſt: Whence alſo this Bird is in ſome places of *England* called the Sea-pheaſant.

Its feet are of a lead-colour, darker about the joynts. It hath a ſmall Labyrinth, and a great Gall.

The Hen is like in colour to the common *Wild-Duck*, but fairer, and variegated with more full and lively white and brown colours. The Wing-feathers agree in colour with thoſe of the Cock, ſave that they are duller and leſs lively. The Belly is reddiſh,

reddish, the middle part of each single feather being black. The Chin is white, with a tincture of red. The Back of a dark brown, with transverse lines and beds of a pale red. The Breast of a sordid white, and the Belly yet darker.

This Bird may be distinguished from all others of the *Duck*-kind by the length of the middle feathers of its Tail as by certain and characteristic note.

§. VI.

The Teal, Querquedula secunda, *Aldrov.* p. 209.

THis, next to the *Summer-Teal*, is the least in the *Duck*-kind; weighing only twelve ounces, extended in length from the tip of the Bill to the end of the Feet fifteen inches; in breadth, measuring between the ends of the Wings spread, twenty four. Its Bill is broad, black, at the end something reflected upwards: The Eyes from white incline to hazel-coloured. The Nosthrils are of an oval figure. The top of the Head, Throat, and upper part of the Neck of a dark bay or spadiceous colour. From the Eyes on each side to the back of the Head is extended a line of a dark, shining green. Between these lines on the back of the Head a black spot intervenes. Under the Eyes a white line separates the black from the red. The feathers investing the lower side of the Neck, the beginning of the Back, and the sides under the Wings are curiously varied with transverse waved lines of white and black. The region of the Craw in some is yellowish, elegantly spotted with black spots, so situate as somewhat to resemble scales. The Breast and Belly are of sordid white or grey colour. Under the Rump is a black spot encompassed with a yellowish colour.

Each Wing hath above twenty five quils. Of these the outmost ten are brown; the next five have white tips; under the white the exteriour Web of the Feather is black: In the sixteenth begins the green, and takes up so much of the feather as we said was black in the precedent three, The exteriour Web of the twenty third is black, with some yellowness on the edges. The covert-feathers of the black quils have white tips, of the green ones have tips of a reddish yellow: Else the Wings are all over brown [dusky.] The Tail is sharp-pointed, three inches long, made up of sixteeen feathers, of a brown or dusky colour.

The Legs and Feet are of a pale dusky colour, the membrane connecting the Toes black: The inmost Toe the least. The Back-toe hath no fin annexed. The Wind-pipe in the Cock is furnished with a Labyrinth: in the Hen we found none.

The Female differs from its Male in the same manner almost as the *wild Duck* does from the *Mallard*, having neither red nor green on the Head, nor black about its Rump: Nor those fine feathers variegated with white and black lines on the back and sides.

This Bird for the delicate taste of its flesh, and the wholsom nourishment it affords the body, doth deservedly challenge the first place among those of its kind.

§. VII.

The Garganey: Querquedula prima *Aldrov.* t. 3. p. 209. Kernel *at Strasburgh.*

IN bigness it something exceeds the common *Teal*; yet that Mr. *Willughby* described weighed no more than the common *Teal. viz.* twelve ounces. Its length from Bill to Claws was seventeen inches: Its breadth from tip to tip of the Wings extended twenty eight. For the shape of its body it was very like to the common *Teal*: Its Bill also black: Its Legs and Feet livid with a certain mixture of green, [Mr. *Willughby* hath it from dusky inclining to a lead-colour.] The back-toe small.

The crown of the Head is almost wholly black, but the Bill besprinkled with small reddish-white specks. From the inner corner of the Eye on each side begins a broad white line, which passing above the Eyes and Ears is produced to the back of the Head, till they do almost meet. The Cheeks beneath these white lines and the beginning of the Throat were of a lovely red colour, as if dashed with red wine, having white spots or lines along the middle of each feather about their shafts. Under the Chin at the rise of the lower Mandible is a great black spot. The whole Breast is curiously varied with black and dusty, transverse, arcuate [elliptical] waved lines in each feather. The Belly in some is white, in others tinctured with yellow: But

toward the Vent are brown lines, and bigger ſpots under the Tail. The colour of the Back is brown, with a purpliſh gloſs. The Thighs are covered with feathers handſomly variegated with tranſverſe black and white lines. The ſcapular feathers next the Wings are aſh-coloured, the reſt are of a very beautiful purple colour, with white lines in the middle.

Each Wing hath twenty five quils, the outmoſt ten of which are brown on the outſide the ſhaft, on the inſide of a Mouſe-dun: The eleven next have white tips, beneath the tips, as far as they appear beyond the covert-feathers, their exteriour Webs of a *ſhining green, the interiour and the bottoms of the feathers being of a dusk or Mouſe-dun. The reſt are brown, only the exteriour Webs edged with white. The leſſer rows of Wing-feathers are aſh-coloured excepting thoſe immediately incumbent on the quils, ſome of which have white tips.

* Mr. *Willughby* deſcribes them to be of a purpliſh colour, with a mixture of cinereous.

The Tail is ſhort [three inches] and when cloſed ending in a ſharp point, of a dusky or dark brown colour, conſiſting of fourteen feathers; the outmoſt feathers are varied with ſpots of a pale or whitiſh red. The ſoal of the foot is black.

The Cock had a Labyrinth at the divarication of the Wind-pipe, the Hen none.

The Hen is leſs than the Cock, and duller-coloured, wants the black ſpot under the Chin, and the red colour of the Cheeks. The Wings underneath are as in the Cock, above more brown. The Back coloured like the Cocks; but the ſcapular feathers have not thoſe beautiful colours.

§. VIII.

* *Of the Summer-Teal, called by Geſner* Ana circia.

* Teal.

Geſner takes that Duck they call *Circia* to be of the kind of the leſſer * *Querquedulæ*: A certain *German* renders it in *High Dutch*, *Ein Birckilgen*, and ſaith it is ſo called from the ſound of its voice; that it is like a ſmall *Duck*, but differs in the colour of the Wings and Belly. For the Wings want thoſe gliſtering feathers, and the Belly is more ſpotted.

This kind (ſo he proceeds) I think is alſo found in our Lakes, for I ſaw not long ſince a ſmall ſort of *Duck* taken in the beginning of *January*, little bigger than a *Dobchick*, brown all over, having the Bill of a *Duck*, that is broad and brown: Alſo dusky coloured Legs and Feet; the Neck an hand-breadth long, the reſt of the body ſix inches. But it was a Hen, and had Eggs in the Belly. The Cock, I gueſs, hath more beautiful colours. In the Stomach I found nothing but ſmall ſtones, and the ſeeds of ſome water-plants, almoſt of the faſhion of Lentiles (but leſſer and thicker) and reddiſh. Thus far *Geſner*.

From this ſhort deſcription, and that too of a Hen bird, we cannot certainly gather, whether it be a diſtinct Species from the precedent. But we ſuſpect it was of that bird which our Country men call the *Summer-Teal*, which Mr. *Johnſon* informs us is of that bigneſs; for we have not as yet ſeen it.

Its Bill is black: The whole upper ſide of a dark grey or light brown; the edges [or extremes] of the feathers in the Back are white. In the Wings is a line or ſpot of an inch breadth, partly black, partly of a ſhining green, terminated on both ſides with white. In the Tail the feathers are ſharp-pointed. The whole under ſide ſeems to be white, with a ſlight tincture of yellow; but on the Breaſt and lower Belly are many pretty great black ſpots. The Legs are of a pale blue, the membranes between the Toes black. This is the leaſt of all *Ducks*. In its ſtomach diſſected I found nothing but graſs and ſtones. This deſcription we owe to Mr. *Johnſon*.

§. IX.

* *A wild Braſilian Duck of the bigneſs of a Gooſe.* Marggrave.

IT hath a black Bill, dusky Legs and Feet. It is all over black except the beginnings [ſetting on] of the Wings, which are white; but that black hath a gloſs of ſhining green. It hath a creſt or tuft on it heads conſiſting of black feathers, and a corrugated red maſs or bunch of fleſh above the riſe of the upper Mandible of the Bill. It hath alſo a red skin about the Eyes. It is very fleſhy, and good meat. They are commonly ſhot ſitting on high trees: For after they have waſht themſelves in cold water, they fly up high trees, for the benefit of the freſh air and Sun.

§. X.

§. X.

* *A Wild Braſilian Duck, called,* Ipocati-Apoa, *by the Portugheſe,* Pata, *that is, A Gooſe. Marggrav.*

IT is of the bigneſs of a *Gooſe* of eight or nine months, of the very ſhape and figure of our common *Ducks*. The Belly, lower part of the Tail, the whole Neck and Head are covered with white feathers; the Back to the Neck, the Wings and top of the Head with black, having a mixture of green, as in the Necks of our *Ducks*. In the Neck and Belly are black feathers, all about ſparſedly mingled with the white. It differs from our Country *Ducks* in theſe particulars: 1. That it is bigger. 2. It hath indeed a *Ducks* Bill, but black and hooked at the end. 3. Upon [or above] the Bill it carries a fleſhy creſt, broad, and almoſt round, of a black colour, remarkably ſpotted with white. The Creſt is of equal height. Between the Creſt and the Bill (*viz.* on the top of the Bill) is a tranſverſe hole of the bigneſs of a Peaſe, conſpicuous on both ſides, which ſerves inſtead of Noſthrils. 4. The colour of the Legs and Feet is not red, but of a dusky aſh-colour. It is full of fleſh, and good meat. It is found every where about the Rivers.

I had another in all things like this, excepting that thoſe long feathers in the Wings were of a ſhining brown colour. I ſuppoſe this is the Male, the other the Female.

§. XI.

* *The firſt Braſilian wild Duck, called* Mareca, *of Marggrave.*

IT hath a *Ducks* Bill, of a brown colour, at the riſe whereof on each ſide is a red ſpot. The Head above is of a grey Hare-colour: The ſides of the Head under the Eyes all white. The whole Breaſt and lower Belly hath an obſcure reſemblance of the colour of Oaken boards; and is beſides variegated with black points [ſpecks.] The Legs and Feet are black; the Tail grey. The Wings elegant, at the ſetting on of a dark grey colour. * The quil-feathers on one ſide are of the former colour, but all the outer half of them [*medietas extrema*] of a pale brown: In the middle they are of a ſhining green, with a border of black; like the colour of the *Mallards* Neck. Its fleſh is very good meat. The outmoſt of a light brown, and the middlemoſt of a ſhining green, with a fringe or border of black.

* I ſuppoſe he means, that the inner quils, or thoſe next the body are of a dark grey, as was before intimated.

§. XII.

* *The ſecond Braſilian wild Duck, called* Mareca, *of Marggrave.*

IT is of the ſame bigneſs and figure with the precedent, hath a black ſhining Bill. The top of the Head, the upper part of the Neck, and the whole Back are of an Umber colour mixed with brown [*fuſco.*] Under the Throat it is white. The Eyes are black, and before each Eye is a ſmall round ſpot of a yellowiſh white colour. The whole Breaſt and lower Belly are of a dark grey, with a mixture of golden. The Tail is black: The Wing-feathers dusky, with a gloſs of ſhining green, and the middle feathers of the Wings are of a rare green and blue ſhining in a dusky: Here alſo they have a waved line of black: But the * end [*extremitas*] of the quil-feathers is wholly white. The Legs and Feet are of a bright red or vermilion colour. The Bird roaſted colours the hands of thoſe that touch it, and linnen cloth with a ſanguine colour. It hath well taſted fleſh, but a little bitter.

* Or border, or perchance outſide.

Chap. IV.

Of Tame Ducks.

§. I.

The common Tame Duck: Anas domestica vulgaris.

IT is called by the Greeks, Νῆσσα or Νῆττα, from the Verb νεῖν, signifying, to swim: As *Anas* also by *Varro* is derived from *no*, *nas*, to swim. It is a Bird every where known, and therefore it would not be worth while to bestow many words in exactly describing it. It is less than a *Goose*, almost as big as a *Hen*, but much lower, having a broad, flat Bill, a broad Back, short Legs, situate backward, *that in swimming it may more strongly strike the water with the finny oars of its Feet:* As *Aristotle* rightly. Hereupon they become less convenient for walking, so that this Bird goes but slowly, and not without some difficulty. *Ducks* vary infinitely in colours, as do *Hens*, and other tame fowl.

Between the *Duck* and the *Drake* there is this difference, that he hath growing on his Rump certain erect feathers reflected backwards toward the Head, which she hath not. The *Duck* lays twelve, fourteen, or more Eggs as big as *Hens* Eggs, and white, with a light tincture of blue or green, the Yolk being of a deeper and redder colour.

The best Physicians (saith *Aldrovand*) disallow the flesh of these Birds, because they are hard and of difficult concoction, and agree not with the stomach: We rather think them disagreeable to the stomach, for their moistness and clamminess than for their hardness, whence also they are apt to produce excrementitious, gross, and melancholic humours. The flesh of wild *Ducks* is preferred before that of tame, as being more savoury and wholsom.

The *Drake* hath a certain bony vessel or buble at the divarication of its Windpipe, which we are wont to call a labyrinth; of the use whereof we have said as much as we thought fit, in the first Book at the end of the second Chapter.

Of the vertues and use of the Duck, and its parts in Physic, out of Schroder.

1. A *live* Duck asswages Colic pains, the feathers being pluckt off, and the naked part applied to the Belly.

2. The *Fat* heats, moistens, mollifies, digests, discusses. Therefore is of use in inward and outward pains, *viz.* of the sides and joynts, in the cold distempers of the Nerves, *&c.*

Note. *This Fat is preferred before all others, especially that of the wild Duck.*

*Good against poison and infection.

3. The *bloud* is* Alexipharmacal, and hereupon is sometimes received into Antidotes. It is a known history which *A. Gellius* in the seventeenth Book of his *Noctes Atticæ*, Chap. 16. relates. The *Pontic Duck* is said to maintain her self by feeding commonly upon Poisons. It is also written by *Lenæus Cn. Pompeys* * *libertus*, that *Mithridates*, that King of *Pontus*, was skilful in Physic, and cunning in remedes of that kind: And that he was wont to mingle their bloud in Medicaments, which were of force to digest and carry off Poisons; and that that bloud was the most effectual ingredient in such Confections. Moreover that the King himself by the use of such Medicines did secure himself against the secret practices of such as sought to poison him at Feasts and Banquets. Yea, that he would wittingly and willingly for ostentation sake often take a draught of violent and quick poyson, and yet received no harm by it. Wherefore afterwards when he was overthrown in battel by the *Romans*, and had fled into the furthest parts of his Kingdom, and resolved to die, and had in vain made trial of the strongest Poisons to hasten his death, he ran himself through with his own Sword.

* A freed man.

4. Its *dung* is applied to the bites of venemous beasts.

§. II.

§. II.

The hooked-bill'd Duck.

IN ſhape of body and outward lineaments it is very like the common tame *Duck*; differs chiefly in the Bill, which is broad, ſomething longer than the common *Ducks*, and bending moderately downward. The Head alſo is leſſer and ſlenderer than the common *Ducks*. It is ſaid to be a better layer.

§. III.

The Muſcovy Duck: Anas moſcata, an Cairina, *Aldrov?*

IT is in this kind the biggeſt of all we have hitherto ſeen. The colour both of Male and Female is for the moſt part a purpliſh black. Yet I once ſaw a Duck of this kind purely white. About the Noſthrils and the Eyes it hath red *Caruncles. It hath a hoarſe voice; and ſcarce audible, unleſs when it is angry. Its Eyes are rounder than ordinary: Thoſe of the young ones at firſt are of a ſordid green, afterwards become continually whiter and whiter.

* Tuberous naked fleſh.

§. IV.

The Cairo-Duck of Aldrovand.

THeſe *Ducks Aldrovand* thus briefly deſcribes. They exceed ours in bigneſs of body. The Male alſo in this kind is bigger than the Female. It Bill where it joyns to the Head is very thick and tuberous; thence to the very tip it is continuedly narrower, till it ends in a ſharp and crooked hook: It is of a black colour excepting toward the end, where it hath a good large red ſpot, and in its beginning another ſmall one of the ſame colour, but more dilute. Its Head was black and tufted: Its Throat juſt under the Bill was powdered with whitiſh ſpecks. The Eyes yellow, wherein appeared many little ſanguine veins. The whole body almoſt was alſo black. The feathers of the Back in the beginning, and alſo in the middle, were black, in the end green, or at leaſt black, with a tincture of green. In the Wings alſo and in the Tail were ſome green feathers to be ſeen, and one or two white ones, which made a kind of white ſpot. The Legs were very ſtrong, but ſhort, coming near to a Cheſnut colour, as did alſo the feet. The Female was leſs than the Male, and had a leſs tuberous Bill, where it was joyned to the Head, marked with a pretty broad line, partly white, and partly red. Beſides, that ſpot we mentioned, which in the Bill of the Male was red, in the Bill of this was of an aſh-colour, wherewith ſomething of red was mixt: Elſe it was of a colour from black inclining to cinereous, if you except two whitiſh ſpots, which in the middle of the Bill turning one to another, each by it ſelf formed the letter C. It had no tuft on its black Head. Its Breaſt alſo was of the ſame colour, ſpotted with white pricks. The Back as in the Male, but the Wings were much greener than his, and ſpotted alſo with two white ſpots. In other particulars it differed little or nothing from him.

§. V.

** The Guiny Duck:* Anas Libyca, *Aldrov. and Bellon. which we take to be the ſame with the Muſcovy and Cairo Duck.*

THis kind of Duck *Bellonius* thus deſcribes. A few years agone a certain kind of *Ducks* began to be kept in *France*, of a middle ſize, between a *Gooſe* and a *Duck*, having a broken voice, as if it had diſtempered or ulcerated Lungs. Now there is ſo great plenty of them in our Country, that they are every where kept in Cities, and publicly expoſed to ſale: For at great entertainments and Marriage Feaſts they are ſought for and deſired. They have ſhort Legs: The Male is bigger than the Female; and, as is uſual in other Birds, of a different colour, ſo that it is hard to aſcribe any certain colour to it, unleſs one would ſay that it comes near to a *Duck*-colour. They are for the moſt part either black or particoloured. They have a Bill in a manner

manner different from *Geese* and *Ducks*, hooked at the end, also short and broad. In the Head rises up something of a red colour like a Crest, but much different from a Cocks Comb. For it is a certain tuberous eminency, situate between the Nosthrils, exactly resembling the figure of a red Cherry. The Temples near the Eyes are without feathers, the skin shewing like a red hide; of the same substance with that Cherry-like bunch between the Eyes: By which Marks I think it may be certainly known and distinguished from other Birds. But this one thing may seem very strange in this Bird, that it hath so great a privy member, that it is an inch thick, and of four or five inches length, and red like bloud. If it were not very chargeable many more of them would be kept than are: For if you give them but meat enough they will lay many Eggs, and in a short time hatch a great number of Ducklings. Their flesh is neither better nor worse than that of a tame *Goose* or *Duck*.

This seems to me to be the very same Bird with Aldrovands Cairo-Duck, *for most of the marks do agree, as will appear to him who will take the pains to compare the descriptions; and also the same with our Muscovy Duck. For* Scaligers *Indian Duck, which* Aldrovand *makes the same with his* * Libyc, *is the same with our Muscovy-Duck, or we are very much deceived. So that I strongly suspect our Muscovy-Duck, the Guinny Duck of* Bellonius, *and* Aldrovands Cairo-Duck, *yea, and* Gesners *Indian Duck too; to be all one and the same bird, more or less accurately described. Perchance also the Birds themselves may differ one from another in those tuberous eminencies and naked skin about the Bill, and upon the Bill between the Nosthrils.*

* *African* or *Guinny* Duck.

§. VI.

* *Gesners Indian Duck, which perchance may be also the same with our Muscovy.*

THere is with us (saith he who sent us [*Gesner*] the figure and description of this Bird out of *England*) a *Duck* brought out of *India*, of the same shape of body, the same Bill and Foot with the common *Duck*, but bigger and heavier by half than it. Its Head is red like bloud, and so is a good part of the Neck adjoyning, on the back-side. All that red is a callous flesh, and divided by incisures; and where it ends at the Nosthrils, it lets down a Caruncle of a different figure from the rest of the flesh, like that of a *Swans*, contiguous [or joyned] to the Bill. Its Head is bare of feathers, and that part also of the Neck which is red, save that on the top of the Head, through the whole length of it, there is a crest or tuft of feathers, which when it is angry it sets up. Under the Eyes at the beginning of the Bill the skin is spotted with black spots placed in no order: Above the Eye also are one or two spots tending upward. The Eye is yellow, separated from the rest of the Head by a circle of black. Under the further end of the Eye backwards is a singular spot separated from the rest. The whole Bill is blue, only it hath a black spot at the tip. The feathers all along the rest of the Neck are white. At the setting on of the Neck is a circle of black, spotted with a few white spots, and unequal, narrower below, broader above. Behind this circle the Plumage of all the lower Belly is white, of the upper side of body brown, but the white Plumage is divided at the top by that black circle. The ends of the Wings and the Tail are of a shining green like *Cantharides*. The skin of the Legs is brown, with light, circular incisures. The membrane between the intervals of the Toes is more pale, sprinkled with two or three brown spots, placed in no order, except in the left foot, where there are six set in a row alongst the outmost Toe. It walks softly by reason of the heavines of its body. Its voice is not like that of other *Ducks*, but hoarse, like a mans that hath his Jaws and Throat swoln with a cold. The Cock is bigger than the Hen. The Hen is like the Cock, but hath not such variety of colours. It gets its living out of muddy waters, and delights in such other things as the common *Duck* doth.

There are many things in this description, which do perswade me, that this Bird also is no other than our Muscovy Duck: *As, equal bigness, naked tuberous flesh about the Bill, a hoarse voice, the Cock being bigger than the Hen,* &c. *Nor is the diversity of colours a sufficient argument of the contrary: For that they (as we have often said) in tame Birds of the same kind vary infinitely.*

§. VII.

The Braſilian Ipeca-guacu *of Piſo.*

IT is a domeſtic, whole-footed bird, reputed for the goodneſs of its fleſh. As to the bulk and ſhape of its body it is of a middle proportion between our Country *Ducks* and *Geeſe*; but in the beauty of its feathers and colours excells them both. Its Bill from the end to the middle is yellow: The middle of its Head is curiouſly tinctured with red; the whole body from the crown to the Tail being of a delicate white colour like a *Swans*. It hath *Ducks* Feet, of a yellowiſh red. It feeds fat as well upon Land, as in Pools. For the goodneſs of its fleſh it is not inferiour to our *Ducks*, and had in eſteem by perſons of quality. It is a fruitful bird, lays great Eggs, and a great many, almoſt all ſeaſons of the year, diſpatching its ſitting in a ſhort time. It is alſo ſalacious; its *penis* and other internal parts ſerving for generation, being more than uſually ſtrong and great. As for its bowels and entrails, they are of like conſtitution and make with thoſe of our *Ducks*.

AN

AN APPENDIX TO THE History of Birds.

Containing

Such Birds as we ſuſpect for fabulous, or ſuch as are too briefly and unaccurately deſcribed to give us a full and ſufficient knowledge of them, taken out of Franc. Hernandez *eſpecially.*

Of the fooliſh Sparrow.

THis Bird is deſervedly famous for its notable folly. It is not afraid of them that go to catch it, but ſits ſtill with a great deal of confidence till they lay their hands upon it, not offering to fly away, but only ſeeming to wonder what they intend to do. It is a Sea-fowl, and feeds upon fiſh. It hath the cry of a *Jay*; is of the bigneſs of a *Mag-pie*, of the ſhape and colour of the *Gull*, excepting that part of the forehead next the Bill, which is cinereous; whole-footed. Is Bill is three inches long, ſlender, round, and ſtreight, only a little crooked near the tip: Its Legs and Feet (which are like thoſe of other whole-footed Birds) black: Its Pupil is alſo black, but the membrane about the Pupil grey.

The tameneſs of the Birds of the Iſland *Cerne* is well known and celebrated. They alight upon the heads and ſhoulders of the Mariners that go aſhore there, as it were upon trees, and ſuffer themſelves without difficulty to be caught, coming readily to hand.

Of the Bird called Daie *laying great Eggs.*

THe Bird called *Daie* is remarkable for the extraordinary and unuſual nature or manner of its Eggs and Young. It is not bigger than a *Pigeon*, and tolerable good meat. For its Neſt it ſcrapes a hole with its Feet and Tail in ſandy grounds four ſpans deep; where when the rains fall it lays its Eggs, (which are bigger than Gooſe-eggs, almoſt as broad as ones fiſt, called by the Natives *Tapun*) fifty or more in number, being of a groſs and fat ſubſtance, without any Yolk in them, which roaſted or boiled are good wholſom food, but fried * tough, bad, and of hard concoction.

* Coarſe.

It is very ſtrange [more ſtrange I dare ſay than true] that ſo little a Bird ſhould lay ſo great Eggs, and ſo many together, and in ſuch deep vaults under ground, and that being there hidden they ſhould be hatched without being ever ſitten upon or cheriſhed by the old ones, and that the Young once hatched ſhould of themſelves preſently fly away.

I dare boldly ſay that this Hiſtory is altogether falſe and fabulous. For though ſome Birds lay very great Eggs (as for example, Puffins, Guillemots, Razor-bills, *&c.) ſome alſo build in holes under ground. Yet ſuch lay but one Egg, not a great many before they ſit. Neither do I think that there is any Bird in the world whoſe Eggs want the white.*

Of the Guitguit *that ſets upon Ravens.*

A Little body contains a great ſpirit and courage. There is a very ſmall Bird (*Guitguit* the *Indians* call it) like the *Wren*, of a green colour, and ſweet-taſted fleſh. Such is the wonderful force of nature, that this Bird, as little as it is, and

next to nothing, dares set upon and pursue whole flocks of *Ravens*, and forces them to hide themselves from it, and to take shelter among the Reeds.

I suppose that this story is feigned in imitation of what the Ancients have delivered concerning the Wren, viz. *that with great courage* [*indeed fool-hardiness*] *she dares enter combat with the* Eagle.

Of the Bird called Maia.

THere is another sort of small Birds, especially in the Island *Cuba*, that fly in flocks, and waste the fields or plantations of Rice, (which grain grows abundantly, and is of much use in those Countries) called *Maia*, of a fulvous colour, its flesh pleasant, of easie concoction, and yielding a plentiful nourishment: Whose Stomach, (or rather Craw) and first receptacle of nourishment, is on the back side of the Neck: A wonderful and singular thing, of which there is not another instance in nature.

Of the Yayauhquitotl *or long-tail'd Bird.*

THere proceed from the end of the Tail [or Rump] of this Bird two feathers longer than the rest, below naked, without any lateral hair-like bodies, adorned at the tips with blue and black Vanes. The body of the Bird is as big as a *Stares*, particoloured of blue, green, fulvous, and grey. *Perchance this may be the same Bird which Marggrave hath accurately described under the title of* Guira-guainumbi.

Of another sort of Xochitenacatl, *that is the* Toucan *or Brasilian Pie.*

THis Bird breeds and feeds on the shores of the Southern *America*, being of the bigness of a *Pigeon*, with a thick, sharp-pointed, black Bill, black Eyes, and a yellow *Iris*. The Wings and Tail are particoloured of black and white, a black list reaching from the Bill to the very end of the Breast, yet is there some yellow about the forepart of the Wings. The rest of the body generally is of a pale colour, excepting the Feet and Legs, which are brown, and the Claws, which from white incline somewhat to a pale yellow. It lives about flowring trees, feeding upon the honey it sucks out of their flowers. It breeds its Young in the Spring, and is much esteemed by the *Tototepecenses*, in whose Country it is very frequent.

Of the Bird called Momot.

THis abides and delights in hot Countries. It is of the bigness of a *Dove*; hath scarlet-coloured Eyes, with a black Pupil: A crooked, blackish Bill, almost three inches long, sharp-pointed, the nether Chap shorter, the upper serrate: A blue Head, like a *Peacocks*; brown Feet, the rest of the body green. What is rare and extraordinary in this Bird is, that it hath in its Tail one quil longer than the rest, and which is feathered only at the end, [*This is, I dare say, more strange than true: For the Tails of all Birds I ever yet saw have their feathers growing by pairs, that is, two of a sort, on each side one,*] and that so beautiful a Bird should be of no use, but for its feathers.

Of the Verminous Bird or Tuputa.

THis Bird seems to be of a strange nature, as we gather from its note, from which it took its name *Tuputa*; but it is, and deservedly, more famous for its singular putrefaction. For while it is living it is wholly stuft with worms instead of flesh, all its members and muscles being full of them. Nothing of flesh besides these and the skin. Yet they do not eat or make their way through the skin, which is adorned with thick-set feathers. It abides among Sedge, and in grassie places. For shape of body it is like a *Pheasant*, but lesser.

What is here delivered concerning this Bird, if understood generally of all the individuals of this sort we are so confident to be false, that we think it needless to spend time in the confuting of it. This however we thought fit to signifie to the Reader, lest he should imagine we gave any credit to the story.

Of

Of the Mozambick Hens.

THe feathers, fleſh and bones of theſe Hens are ſo black that being boil'd one would think they had been ſodden in ink; yet are they thought to be very ſavoury, and far better than thoſe of other Hens. *This hiſtory is as true as the precedent.*

Of the laughing Bird or Quapachtototl.

MIrth is often unſecure. *Quapachtototl* or the fulvous Bird imitates humane laughter, and yet is dreaded and hated by the Indians as mauſpicious and ominous, fore-boding ſome evil or miſchief. The body [from Bill to Tail] is eight inches long; and the Tail as much. The Bill from blue inclines to black, being pretty long and crooked. The circle about the Pupil of the Eye is white: The Breaſt cinereous: The Belly from thence to the Tail black. The Tail of a dark fulvous: But the Wings, Neck, and Head fulvous, whence it got its name among the *Indians*. They ſay it is pleaſant and wholſom meat.

Of the Water-Quail or Acolin.

A Certain brown Bird of the Lake of *Mexico* is called *Acolin*, becauſe it is of the bigneſs of a *Quail*. It hath a long Bill, bending downward; and long Legs. It runs very ſwiftly near the top of the water: And ſeldom or never flies. It feeds upon fiſh: And it ſelf is made food by man.

Of the Cornet Ducks.

THere is a certain ſort of *Ducks* in *Aſia*, which one may not undeſervedly reckon among *Cornets* or Horn-winders: Their voice doth ſo nearly reſemble the ſound of a horn ſuch as Poſt-boys uſe. This ſame Bird though it be feeble and weak, yet is it bold and ſtout, and the *Turks* have a perſwaſion that it frightens and drives away evil ſpirits. Certes it is ſo conſtantly deſirous of liberty, that though it be kept up and fed three whole years in a Cage, if it get an opportunity of eſcaping, it will prefer its liberty before its eaſe, and fly away to its natural and uſual haunts and manner of living.

Of Birds that cannot ſtand.

THe Indians call a ſort of Duck with a black Bill, indifferently broad; tho whole body almoſt being white, black, and grey, but about the Head and Neck purple, white, blue, green, and changeable according as it variouſly reflects the Sunbeams, like the Heliotrope ſtone, or a *Peacocks* head, *Yztactzon Yayauhqui*, or the Bird of a particoloured Head. Its Legs and Feet are red: Its food like that of other marſh-birds. It is a Bird of paſſage, coming to the Lake of *Mexico* at a certain ſeaſon. We muſt not omit to tell you, that this Bird like the *Acitli* or *Water-Hare* cannot walk but only ſwim; the Legs of both growing in like manner at the very end of their bodies.

Of the broad-bill'd Bird or Tempatlahoac.

THere is a certain ſort of wild Duck among the Indians, called by them *Tempatlahoac*, [the *Spaniards*, Natives of *America*, call it a *Swallow*] of the bigneſs of a tame *Duck*, and therefore called among the *Indians* by the ſame name. It hath a broad, long Bill, all over black; A white Tongue: Pale-red Legs and Feet: Its Head and Neck ſhine with green, purple and black colours, like thoſe of a Peacock, or the heliotrope ſtone. Its Eyes are black, and *Iris* pale: Its Breaſt white: But the reſt of the body beneath fulvous, and adorned with two white ſpots on both ſides near the Tail; above beautified with certain ſemicircles, the circumference of which from white tended to brown, the middle or inner part from black to a ſhining green. The Wings at the ſetting on [or beginning] are blue, next white, and then laſtly of a ſhining green. Yet their extremes are on one ſide fulvous, on the other ſide

ſhining and green. The circumference of the Tail both above and beneath is white, elſe it is black underneath, and of a Peacock colour above. This alſo is a ſtranger coming from ſome other Country to the Lake of *Mexico*, and its fleſh is ſuch kind of meat as that of other marſh Birds.

Of the creſted Eagle.

THis is a beautiful kind of *Eagle*, and as it were crowned like a Kingly Bird; the Indians call it *Yzquauhtli*. Its Bill is yellow at the root, then black; Its Talons black: Its Feet of a pale colour: Its Legs and Belly mingled of black and white: Its Neck fulvous; its Back and Tail black and brown: Its creſt or crown black. It is about as big as a common Ram; and is as ſtout and hardy as the fierceſt creatures, ſo that being reclaimed and kept tame upon a ſleight provocation, it will aſſault and fly upon even men themſelves. Yet is it very tame and gentle, and becomes as fit and ſerviceable for hawking as other Hawks, of which it is a kind.

Of the Bird having three tunes, or notes.

A Small Bird that ſings very ſweetly is found in *Hiſpaniola*. It ſings in three ſeveral voices or notes, varying its tune with almoſt indiviſible modulations: from a ſharp note preſently falling down to others, that it ſeems to utter them all together, and with one breath to form ſeveral notes, as if they proceeded from three throats. An anonymous manuſcript Author, who affirms that himſelf hath heard, thinks that there is no bird in the World ſings more pleaſantly, yea, that it clearly excels the *Nightingale* in the almoſt inexplicable ſweetneſs of its accents. This Bird he ſaith he ſaw not, only heard it: But from the teſtimony of others he declares that it is very beautiful, and adorned with wonderful variety of lovely colours.

Of the Water-Sparrow.

A *Cototloquichitl* or the Water-Sparrow, the Cock ſings pertinaciouſly without intermiſſion. From Sun-riſing to Sun-ſetting it chirps and cries ſtiffly with a noiſe like the ſqueaking of Mice. It gratifies the Palate more than the Ear. It ſits upon Ruſhes and Seggs, and among them it builds. For bigneſs and ſhape it reſembles a *Sparrow*, yet its Bill is black; its Legs and Feet fulvous. The lower or underſide of the body is for the moſt part white: The reſt fulvous, varied with a kind of white and black. It is found in the coaſts of *Mexico*.

This Bird is not much unlike that we have intitled the *Reed-Sparrow*.

Of the hoarſe Bird.

THe ludicrous motion and contraction of its Neck at pleaſure hath ennobled the *Acaca cahucacth*, or water bird that cries hoarſly: For the hoarſeneſs of its voice hath given it its name, It is of that kind of *Halcyons* [King-fiſhers] which our Country-men [Spaniards] are wont to call *Martinet Peſcador*, which naturally frequents Rivers and Streams of water to get its food. It is a little leſs than a *wild Duck*, having its Bill and Neck of a ſpan long: Its Bill is about three fingers breadth long, of a moderate thickneſs, ending in a ſharp point, and very fit to ſtrike and peck withall, black above, white underneath, and pale about the ſides. The Pupil of the Eye is black, the *Iris* next the Pupil red, then pale, and at laſt white. From the Eyes to the riſe of the Bill proceeds a * line [*faſcia*] of a pale green. Its Legs and Feet (which are cloven into toes, are green on the out-ſide, on the inſide incline to paleneſs. The colour of the whole body is for the moſt part white, with fulvous feathers intermixt: But the upper ſide inclines more to brown, the underſide is whiter. The Wings underneath are grey; above about the extremes black, next from fulvous inclining to red, then from fulvous declining to pale, and laſtly near the Back fulvous. It feeds and lives upon fiſhes, very eaſily becomes tame, and ſings not unpleaſantly; but muſt be carefully and tenderly fed with worms, and water-inſects. You may alſo for want of other more natural food give its fleſh to eat. It yields a groſs nouriſhment, not unlike to that which wild Ducks afford. It is native of the Country of *Mexico*, and breeds in the Spring among the Ruſhes. Whereas the Neck, in compariſon with the reſt of its body, is very long, it is wonderful ſtrange into what a ſhortneſs it can contract

* Or Swathe.

contract it; which it is commonly wont to do. Its Tail is little and black, shewing something of splendour, and widening into a greater breadth. *They call it by its Country-name *Tolcomoctli*. This Bird would be altogether like its fellow, were not its Bill black above; and red underneath, as also its Legs and Feet: And the colour of its whole body fulvous and black promiscuously.

* Here seems to be some fault in the Copy, the following sentence arguing the word *Tolcomoctli* to be the name of another though like Bird.

Of the Hoactzin.

ITsuse in Physic recommends the bird *Hoactzin*, that utters a sound like its name. It is almost as big as a *Turkey*; hath a crooked Bill, a white Breast inclining to yellow: Wings and Tail spotted at intervals of an inch distance: Of a white and pale colour; the Back and upper part of the Neck fulvous, but both inclining to brown; as do also the temples of the Head as far as the Bill and Eyes. It hath black Claws, and dusky Legs. It hath a crest made up of feathers from white inclining to a pale colour, but their back-side black. It feeds upon Snakes. It hath a great voice, representing a kind of howling. It appears in the Autumn, and is by the Natives accounted an unlucky bird. Its bones asswage the pain of any part of mans body by launcing. The smoak or suffumigation of its feathers brings them to their right mind who grew distracted by any sickness. The ashes of its feathers taken inwardly cure the French Pox, giving marvellous help. It lives in hot Countries, as is *Tautepec*, and very often is found sitting upon trees near Rivers.

Of the dry Bird, or Hoactli.

NEither is the *Hoactli* or *Tobactli*, that is, the dry bird, feeding about the Lake of *Mexico*, a contemptible spectacle. From the point of the Bill to the end of the Tail it is three spans long, and of the bigness of a common Hen. Its Legs are a foot long: Its Bill is five inches long, [perchance he may mean 1 ⅓ of an inch, the words are, *Cum uncia trientem*,] and an inch thick, black above, pale on the sides, and underneath black and brown. Its Eyes are great; its *Iris* yellow, and Eye-lids red. The crown of the Head is covered with black feathers, and adorned with a crest in like manner black. Its Neck, Breast, Belly, and whole body are white, but its Tail ash-coloured, as are also its Wings above, for underneath they are whiter. The upper parts of its Wings shine with a kind of greenness. The Back though it be covered with white Plumage [or down] yet is wont to be invested with black feathers, inclining to a shining green. The Feet which are cloven into Toes, and also the Legs are pale. Its Head is compassed with a white wreath or ring proceeding from the rise of the Bill to the Eyes. It is a stranger to the Lake of *Mexico*, coming from some other place; and is called by *Spaniards* Natives *Martinete pescador*, from its catching of fish, upon which it feeds. It breeds among the Reeds; it bites shrewdly; and hath a great flat voice.

Of the Wind-bird, Heatototl.

H*Eatototl* or the Wind-bird is also worthy to be beheld. It is adorned with a great orbicular crest, standing up like a crown, and a little whitish. Its Breast from brown inclines to cinereous: Its Belly is white, and Feet flat: Its Legs and the feathers growing about them fulvous. Its Tail is round underneath varied with white and a sooty colour, but above brown: Its Wings underneath are white, ash-coloured and sooty, above black, yet with some white feathers interspersed. In other respects it is of the same nature with other Water-fowl, and like to the other *Heatototle*, which is something less then a *tame Duck*, with a black, slender round Bill, and near the end wreathen: Its feathers underneath white, but above near the Thighs fulvous. Its Wings underneath are ash-colour, but above brown, black, and white. Its Head is black and crested; but from the hinder part of the Head black stroaks proceed on both sides to the Eyes, which are black, with a yellow *Iris*. In other things they are like to birds frequenting Fens and Marshes.

Of

Of Achalalactli *and* Amalozque, *birds with rings about their necks.*

ITs ſilver-coloured ring adorns the Neck of *Achalalactli*, or the Bird that toſſes and throws fiſhes about. Some call it *Michalalactli*. It is of the bigneſs and ſhape of a *Dove*, hath a black, ſharp Bill, three inches long, and thick for the proportion of its body. Its Head is adorned with a long creſt, from blue inclining to black. Its Belly is covered with white feathers, and its Neck beautified with a white ring. Its Wings underneath are white, but their ends brown, ſpotted with white: Above, like the reſt of the body, blue, but their extreme parts black, and ſpotted every where with white ſpecks. Its Tail is partly black, partly blue, but at intervals alſo varied with white ſpots. Its Legs are red; its Feet divided into Toes, ending in black Claws: Its Eyes black, and *Irides* white. It is a * ſtranger to this Country of *Mexico*, and frequents Rivers and Fountains, feeding upon little fiſh and water Inſects. It is edible, but of like taſte and nouriſhment with other Fen and Marſh birds.

* Not native of it, being a bird of paſſage.

Nor is the *Amalozque* or red-neckt bird of leſs beauty. It is alſo a Marſh-bird, of the bigneſs of our common *Turtle-dove:* Its Legs and Feet (which are divided into Toes) being of a delayed red, [or white daſhed with red:] Its Claws black: Its Bill of a moderate length, ſlender, and black: Its Eyes black, and *Irides* red. The lower parts of the Breaſt, Belly, and Wings are white: But its Tail, which is of a moderate bigneſs, is ſprinkled with fulvous and black: But, what is moſt remarkable, two black collars, diſtant by the breadth of ones little finger, encompaſs the Neck and Breaſt; the foremoſt whereof incircles it round, the hindmoſt fails and diſappears in the upper part, [or above the Neck.] On both ſides are two white ſpots of equal bigneſs, above the Eye toward the Neck, and reaching almoſt to it. The upper part of the body and alſo the tail are of a white, black, and fulvous colour. But the Wings above fulvous and brown. This Bird is native of the Lake of *Mexico*, breeding and bringing up its young there in the Spring-time. Its fleſh is eaten, and affords like nouriſhment with that of other Water-fowl. It feeds upon little fiſhes, Gnats, and other Water-Inſects. It hath a louder and ſtronger cry than ſutes to the proportion of its body: yet is it not to be numbred among the clamorous birds.

The healing Wood-pecker, or Tleuquecholtototl.

THis *Tleuquecholtototl* or Bird with a Head like the *Spoon-bill* [*Platea.*] It is bigger than a *Blackbird*, hath a long black Bill, but the nether Chap much the ſhorter. The crown of the Head, and almoſt the whole Neck above is red, the lower parts being altogether cinereous. The Wings and Back are black, varied with tranſverſe white lines. It lives in the fields of *Pavatlan*, in the Province of *Totonacapa*. It is a kind of *Wood-pecker*, that perforates trees, the red feathers of whoſe Head being applied and glued to the Head are reported to cure the Head-ach: Whether they came to be of that opinion, becauſe they grow on the birds Head, or found it to be ſo by ſome experiment.

Of the Wood-pecker that breeds in the time when the rains fall.

QUatotoni is a kind of *Woodpecker* of the bigneſs of a *Hoopoo*, varied with a black and brown colour. Its Bill, wherewith it perforates trees, is three inches long, ſtrong and white, the nether Chap the ſhorter. Its Head is ſmall, covered with a red plumage, adorned alſo with a red creſt, three inches long, and black at top. On each ſide the Neck goes down a white ſtroke [*faſcia*] as low as the breaſt. Its Legs and feet are of a livid or lead-colour. It lives not far from the South Sea: Builds upon high trees: Feeds upon *Cicadæ*, or *Tlaolli*, Worms, and other Inſects. It breeds in the time that the rains fall, that is from the month of *May* to *September*. It is neither good to eat, nor uſeful for any thing elſe that I have heard of.

Of the Queen of the Auræ.

COzcacoauhtli the *Indians* call a Bird, which they ſay is the Queen of thoſe fowl the *Mexicans* call *Auræ*. It doth not leſs deſerve that name from its conſtancy or firmneſs againſt all the force of blaſts, and impulſe of winds. It approaches in bigneſs

bigneſs to the *Gnoſſian Eagles*. its whole body beſides the Neck and thoſe parts which are near the Breaſt is from a black purple, fulvous and dark or ſad-coloured. Its Wings underneath about their riſe black, elſe cinereous; but above mixed of fulvous and black, and ſomething inclining to purple. Its Legs are red, and Claws hooked. The extremes of the Bill (which one would think were thoſe of a *Parrot*, they are ſo undiſcernably like) are white, the reſt of the Bill of a ſanguine tincture. The Noſthrils are large; the Eyes black, but *Iris* fulvous; the eye-lids red: The forehead died with a ſanguine colour, and frowning or wrinkling, which wrinkles it doth ſometimes explicate and ſmooth. In which particular, and alſo in ſome thin, ſcattered hairs, friſled, not unlike Blackmores hairs, it ſeems to reſemble the *Turkey*. It hath a Tail like an *Eagle*, grey beneath but black above. It feeds upon Snakes, Mice, and Lizzards that it catcheth; but eſpecially upon Carrion, or dead beaſts, and mans dung. It ſoars aloft, flying high with its Wings ſpread, and almoſt without intermiſſion. It is native of the Province of *Mexico*, and breeds in the Spring. With an incredible force it reſiſts the Winds, bearing up ſtiffly againſt them, and perſiſting in the ſame place immovable, let them blow never ſo boiſterouſly. Its fleſh is unuſeful for food, not being taſted of by any man, that I have yet known of, but only for Phyſic. I hear that the *Indians* do heal Ulcers by applying to them the feathers of this bird outwardly, and giving the Patient its fleſh boiled to take inwardly for his food during the diſtemper: Which they ſay alſo is a preſent remedy for the French Pox.

Of the Garagay.

Garagay is ſaid to be a Bird of prey, of the bigneſs of a *Kite*: Having its Head and the ends of its Wings white: Being of ſhort flight, a great deſtroyer of *Crocodiles* and *Tortoiſes* Eggs. It ſmells them out though hidden under the ſand in the banks of Rivers, ſcrapes them up and devours them. It is a ſolitary bird, ſave that the *Auræ* follow it that they may partake of its prey: For they cannot ſcrape in the ground to dig up Eggs.

Of the Hoacton.

THe Female of this Bird, called *Hoacton*, is a little bigger than the Male called *Hoactli*, akin to, or like the common *Heron*; white on the Neck and Belly, with brown feathers intermixt. The reſt of the body is brown, ſet here and there with white feathers. Its Eyes great, and black, with a pale *Iris*.

Of the Scarlet-feathered Indian Bird.

THe luſtre of its Wings commends the *Acolchichi* or red-ſhouldered bird, and obtained for it of the *Spaniards* an honourable name, who call theſe Birds *Commendadores*, becauſe they reſemble the badge or cognizance of thoſe Knights, who wear on their ſide the like ſhining red. They ſeem to be a ſort of *Stares*, which the Spaniards call *Tordos*, agreeing with them in bigneſs, colour, and ſhape, and every where companying with them; although their ſhoulders at firſt appear fulvous, inclining to red, and as they grow older are wholly changed into a * fulvous colour. Being kept in Cages they learn to imitate humane ſpeech, and prattle very pleaſantly. They eat any thing you offer them, but eſpecially Bread and *Indian* Wheat. You may find theſe Birds both in hot and cold Countries: By their numerous flocks they are very troubleſome to people living in Towns, eſpecially in hot and maritime Countries. They yield a bad and unpleaſant juice; and build in trees not far from Towns and the commerce of men, waſting and deſtroying the corn-fields where they light. They ſing and play whether they be ſhut up in Cages, or ſuffered to walk freely up and down the houſe.

* I ſuppoſe here is the the miſtake in the Copy or Author, and that it ſhould be *red*.

Of fair-feathered Birds.

ITs feathers have made the *Quetzaltototl* more precious than gold, and therefore it is called the *bird of feathers*. It hath a creſt, and is in good part adorned with Peacocks feathers, of the bigneſs of a *Pie* or *Pigeon*, having a crooked yellow Bill, and Feet ſomething yellow. The Tail is compoſed of very long feathers, of a ſhining green,

green, and of a Peacock colour, like for ſhape to the leaves of *Flower-de-luce*; and covered above with other black ones, but beneath and where they touch the Peacock-coloured or purple ones, (which are in the middle) inclining to green, as if nature took care of the beauty of the middle feathers. The Creſt conſiſts of ſhining and very beautiful feathers. The Breaſt and Neck underneath are covered with a red and ſhining Plumage; and with a purple [*pavoninâ*] as is alſo the Back and the ſides under the Wings, and the Belly between the Legs; but the feathers in this laſt place are of a fainter colour, ſlender, and ſoft. The feathers of the Wings are very long, tinctured with a dilute green, and ending in ſharp points. The feathers growing on the ſhoulders are green, but black underneath; but thoſe between the Wings are ſomething crooked, and of the colour of the * Claws. The feathers of this Bird are highly eſteemed among the *Indians*, and preferred even before Gold it ſelf; the longer ones for creſts, and other ornaments both of the head and whole body, both for War and Peace: But the reſt for ſetting in feather-works, and compoſing the figures of Saints and other things; which they are ſo skilful in doing, as not to fall ſhort of the moſt artificial Pictures drawn in colours. For this purpoſe they alſo make uſe of, and mingle and weave in together with theſe the feathers of the *humming bird*. Theſe Birds live in the Province of *Tecolotlan* beyond *Quauhtemallan* towards *Honduras*; where great care is taken that no man kill them: Only it is lawful to pluck off their feathers, and ſo let them go naked; yet not for all men indifferently, but only for the Lords and Proprietors of them; for they deſcend to the Heirs as rich poſſeſſions. *Fr. Hernandez* in ſome pretermitted annotations adds concerning the manner of taking theſe Birds ſome things worth the knowing. The Fowlers (ſaith he) betake themſelves to the Mountains, and there hiding themſelves in ſmall Cottages, ſcatter up and down boil'd *Indian* Wheat, and prick down in the ground many rods beſmeared with Birdlime, wherewith the Birds intangled become their prey. They fly in flocks among trees, on which they are wont to ſit, making no unpleaſant noiſe with their whiſtling and ſinging in conſort. They have by the inſtinct of nature ſuch knowledge of their riches, that once ſticking to the Birdlime, they remain ſtill and quiet, not ſtrugling at all, that they may not mar or injure their feathers. The beauty whereof they are ſo in love with, that they chuſe rather to be taken and killed, than by endeavouring to get their liberty do any thing that may deface or prejudice them. They are ſaid to pick holes in trees, and therein to build and breed up their Young. They feed upon Worms, and certain wild * *Pinnæ*, of that ſort which the *Mexicans* are wont to call *Matzatli*. They love the open air, nor hath it been yet found, that ever they would be kept tame, or brought up in houſes. They make a noiſe not much unlike *Parrots*: But they have a chearful and pleaſant whiſtle, and they ſing thrice a day, to wit, in the Morning, at Noon, and about Sun-ſet.

* The word is *unguium*, it may be the Author may mean humane nails.

* I ſuppoſe this word is miſtaken, for what *pinnæ ſylveſtres* mean I know not.

Next to the *Quetzaltotoil* the *Tzinitzian* is moſt eſteemed. It is a ſmall bird, almoſt as big as a *Dove*, clothed with feathers of many colours, with which the Natives compoſe Images and Figures of wonderful ſubtilty and curioſity: For from this artifice they are become known and famous all the world over. Theſe they uſe and make ſhew of on Feaſt days, in War, in their Temples, and public Merriments and Dancings. Its Bill is ſhort, crooked, and pale; its Head and Neck like a *Doves*, but covered with green and ſhining feathers. Its Breaſt and Belly are red, excepting that part which is next the Tail: For that is died with blue and white promiſcuouſly. Its Tail green above, and black underneath: Its Wings partly white, and partly black. The *Iris* of its Eye is yellow, but inclining to ſcarlet: The Legs and Feet cinereous. It lives in hot Countries near the Southern Ocean. It is nouriſhed up in Cages, and fed with fruits. It is as beautiful and lovely a Bird as any is, but neither doth it ſing, nor is its fleſh (that I know of) good.

Totoqueſtal alſo (as *Antonius Herrera* writes) is a leſſer-ſized bird than a *Pigeon*, all over green. The feathers of its Tail are very long, highly prized, and a ſpecial commodity uſed in commerce. It was a capital crime to kill this bird; wherefore they only pluckt it, and let it go.

Of the Thruſhes of Chiappa *and Artificer-Sparrows.*

THere is a ſort of *Thruſhes* found in *Chiappa*, which they call *Artificer-Sparrows*. They are black only on the Breaſt, and red on the Head. They feed only upon Acorns. With their Bill they perforate the barks of Pine-trees; and in each hole fitly accommodate or ſtick in an acorn, ſo that by the hand it cannot be pluckt out; and ſo very elegantly

elegantly set the Pine-tree round with Acorns. Then sticking to the bark with their Feet, they strike the Acorn with their Bill, and devour the kernel.

Of the long bird or Hoitlallotl.

Hoitlallotl or the long bird is more taken notice of for its running than for its feathers. From the tip of the Bill to the end of the Tail (which also is a span long) it is extended nine inches. Its Bill is black above, cinereous underneath, three inches long, and moderately thick. Its Tail is green, but with a purplish splendour. The feathers of the whole body from white tend to fulvous, but toward the Tail from black to the same colour. Yet the feathers on the upper side of the body are black, sprinkled with white spots. It flies near the ground, and makes but short flights; but runs so swiftly that it far exceeds the speed of the fleetest horses. It lives in hot Countries, and yields no very desirable nourishment.

Of Indian Quails.

Those of *New Spain* call Quails *Colin*. These are like our Country *Quails*, though they be without doubt to be referred to the kind of *Partridges*. There are found many sorts of them in *New Spain*: Some brown and crested, which they call *Quauhtzonecolim*; of a moderate bigness, and a remarkable, but mournful cry: Others brown in like manner, but without crests, and a little less: Others, the biggest of all, of a fulvous colour, but their Heads varied with white and black, the ends [*extremis*] of their Wings and Back white, their Bill and Feet black. They are all (as I said) like to the *Spanish Quails*, very good and pleasant meat, provided you kill them two or three days before they be rosted and served up. Physicians allow sick persons to eat of their flesh: Neither is there any Fowl among the Indians, next to tame Poultry, whose flesh is to be preferred before it, either for wholsomness or taste. They have a tune like our *Quails*, and some a more pleasant one than others. They are kept in Coops, and fed either with common or *Indian* Wheat; and are common in many parts of this Country.

The same Author [*Fr. Hernandez*] of the *Coyolcozgue* or sounding Quail in another place writes thus. It is one among many other sorts of *Colin* or *Mexican Quails*, of which we shall speak singly: like to our Quails for bigness, note, feeding, flight, and conditions, but of a different colour; above mingled of fulvous and white, underneath only fulvous; yet the crown of the Head and the Neck are set with black and white feathers; which make seams or strakes on each side from the Neck to both Eyes. The Eyes are black, and the Legs fulvous. It is native of this Country, and frequent in the open fields, as is the common *Quail*, and yields a like nourishment, coming next to the *Spanish Partridge*, of which it is a sort.

Colcuicuiltic or the *Quails Image* is also a sort of *Quail* varied with white, black, and scarlet Plumes; above rather produced in lines than round spots, underneath disposed rather into thick-set spots than lines. Its Feet and Legs are blue: But for its note, bigness, conditions, and all other qualities, it is altogether like the precedent.

Acolin is of the bigness of a *Stare*, hath pale-green Legs and Feet, divided into four pretty long Toes. Its Bill is yellow, and of the longest for the proportion of its body, slender also, and sharp-pointed: Its Eyes black, its *Irides* fulvous, and Head small, The under side of the body is white, the sides spotted with brown: The upper surface of the body and the Tail (which is short) are fulvous, but spotted with black; lines of white encircling all the feathers, sprinkled or powdered sometimes with specks of the same colour. It frequents Lakes, and hath a fishy taste, yet is it no unpleasant meat. It feeds usually upon Worms, Flies, and other Insects flying about the Fens. It breeds in the Lake of *Mexico*. Its Head glisters with a wonderful variety of colours, a black line dividing it in the middle, and others of a grey or ash-colour distinguishing the sides: The exteriour corners being pointed with small white spots. The Neck and Breast are grey [*cinerea*,] the rest of the Plumage from fulvous rather incline to green.

Of the Snow-bird or Ceoan.

IT is a little bigger than a *Thruſh:* Eſteemed of for imitation of humane ſpeech: About the Breaſt, Belly, and ſetting on of the Wings fulvous; near the Tail are grey feathers mingled with the fulvous. The ends of the Wings and the Tail it ſelf underneath are cinereous: But above, all the body is of a dark brown. The Bill, (which is ſmall and ſlender) and the Legs are fulvous: The Chin is white, yet having ſome black feathers intermixt. It imitates humane ſpeech, mocking, and as it were deriding thoſe that paſs by: Whom yet if it may it will follow.

Of the Cenotzqui *or Snow-calling bird.*

IT deſerves its name, becauſe before it ſnows it cries, afterwards is ſilent. It is remarkable for variety of colours: Having a fulvous Breaſt, pale Legs, black Claws, a Belly ſpotted with black and white. Under the Wings it is white and aſh-coloured; above fulvous, black, and then cinereous ſpotted with black, and near the ends or tips ſpeckled with white. Its Tail underneath is black and white, above fulvous, ſpotted with black. Its Head is black, encircled with a wreath of grey: Its Bill ſmall, grey both above and beneath, but above near its riſe encompaſſed with a yellow line. Its Eyes are black, and Eye-lids pale. It endures any kind of air or weather, but abides in mountainous places, and in the Spring-time breeds and brings up its Young. It ſo turns its Head up and down, winding its Neck every way, that abiding immovable in the ſame ſite it can look round about it.

There is alſo another ſort of this Bird differing in ſome varieties of colour, having its Head fulvous and grey, its Neck partly black, and partly white, which ſome call *Loceto.*

Of the Bird called Pauxi.

I Take this to be the ſame with the *Mitu* of *Marggravius*, and with the Mountain Bird or *Tepetototl* above deſcribed. The whole difference is in the Creſt, inſtead whereof this Bird hath a certain tumour at the root of its Beak, of the figure of a Pear, and the hardneſs of a ſtone; of a blue colour like that of the *Turcois* ſtone. *In another place he ſaith,* that this tumour called a ſtone, though it be not over-hard, is like an Egg or bigger, of a ruſty colour.

Of Picicitli.

THe ſmall Bird called *Picicitli* appears after ſhowers: It is noted for the obſcurity of its original. The *Tetzcoquenſes* do not yet know where it breeds. It is a mute Bird, brought up in the houſe it ſoon dies and decays. It gratifies both the Palate and Stomach. It is all over aſh-coloured, except the Head and Neck, which are both black: Only a white ſpot encompaſſes its black Eyes.

* Of many notes.

Of the *Polyglott *Bird.*

I Saw, heard, and admired a ſmall Bird brought to *Madrid*, the Queen of all ſinging Birds, that could command any voice or tune. The Indians from its multiplicity of notes call it *Cencontlatolli* or four hundred tongues. It is not bigger than a *Starling*, white underneath, brown above, with ſome black and white feathers intermixt; eſpecially next the Tail, and about the Head which is encircled with the likeneſs of a ſilver crown. It is kept in Cages to delight the ear, and for a natural rarity or rather wonder. It excells all Birds in ſweetneſs and variety of Song, and perfect command of its voice; imitating the note of any ſort of Bird whatſoever, and excelling its exemplar. It goes far beyond the *Nightingale.* I my ſelf kept it a long time, It is content with any meat; it loves hot Countries, but can abide temperate.

Tzaupan is like to this. Some ſuſpect that it is only the Hen of the ſame ſort, they being equal in bigneſs, ſinging alike, and agreeing in ſhape, ſaving that the feathers underneath are white, cinereous, and black, thoſe above ſad-coloured, black and white.

Of

Of the ſinging Night-bird.

Chicuatli or the Night-bird is of the bigneſs of our *Woodcock*, hath a long, ſlender, black Bill, and crooked yellow ſeams near each Eye. The lower parts of the body are of a pale colour, with a few black feathers intermixt about the Neck. The Eyes are black, with yellow *Irides*. The reſt of the body is of a mingled colour of fulvous, brown, and grey. It lives in the Mountains, and flies low: Being kept in a Cage it prattles or chatters prettily. It is eaſily brought up, for it is wont to feed upon bread made of *Tlaolli*, Worms, Gnats, and other Inſects. It is taken both in hot and cold Countries; it feeds fat, and affords no contemptible nouriſhment. Some there are that call it *Chiquatototl* from the Owl, being a Bird not leſs Augural and ominous than that.

Of the Xomotl.

WE owe the protection and coverture of our nakedneſs not to Sheep and Quadrupeds only; for the Indians weave the feathers of this Bird into their Garments. It is whole-footed, hath its Back and Wings above black, its Breaſt brown. When it is angry it ruffles up the feathers upon its Head like a Creſt.

Of the Rabihorcado.

THis Bird divides its forked Tail into two parts, ſometimes opening, ſometimes ſhutting or drawing them together like a Tailors Sheers: Therefore it is called *Rabihorcado*, and by the *Portugheſe*, *Raboforcado*.

An account of ſome Birds of the Ferroe *or* Ferroyer *Iſlands, out of* Hoiers *Epiſtle to* Cluſ.

THe Birds of the firſt and ſecond Claſſis are inſerted already into this work in their proper places.

In the third *Claſſis* or rank (*ſaith the Author*) I place three Species different in ſhape, but in this quality very near of kin that they preſage ſtorms and tempeſts, and abide only far out at Sea. The biggeſt of theſe is much about the bigneſs of an ordinary Pullet, [or middle-ſized Hen,] of the ſhape of a *Falcon*. It is commonly, and not improperly, called *Haffhert*, *i.e.* The *Sea-horſe*. It is all over of an aſh-colour, and every where ſpotted with white; it hath a crooked Beak like a *Falcons*, but ſhorter. At the ſight thereof the Fiſhermen are horribly afraid, as they are alſo at the appearance of the two following, and make to the Shoar as faſt as they can, being ſure that there is a dangerous tempeſt at hand.

The ſecond, called *Stormfinck*, is a little bigger than a *Sparrow*. This alſo is all grey, but without ſpots, having a very ſlender Bill. You might with better reaſon term this *Pegaſus* than the former: For that you ſhall to admiration ſee it with incredible velocity run upon the very Waves, croſſing of them as ſwift as the Wind, being carried on like a ſtorm, as its name imports. If flocks of theſe draw near to any Veſſels at Sea; experienced Mariners know they muſt preſently lowr their Sails. This Bird ſeems to have ſome affinity with that which *Oviedus* mentions in his fourteenth Book of the *natural and general Hiſtory of the Indies*, about the beginning of the firſt Chapter, telling us, that the Mariners call it *Patines*: It being of equal velocity in flying even in a troubled and tempeſtuous Sea, ſo that one would think it ran with a ſwift courſe over the tops of the Waves.

The third Species named *Barnfiard*, is equal to a *Sparrow*, white under the Breaſt, with the Neck and Back black: Its Beak is alſo black, and ſomewhat broad: Its Feet red: This is as ſwift in ſwimming as the *Stormfinck* in running. Where theſe three kinds breed their Young is not known. Whence, in my opinion, among all that we have enumerated they ſeem to come neareſt to the deſcription of the *Halcyon*; though in colour they do not altogether agree with *Plinies* deſcription.

5. In the fifth rank remain to be deſcribed two different ſorts of *wild Geeſe*; the former whereof, called *Helſingegnaas*, hath a black Head and Neck encompaſſed with a white ring, a white Breaſt, grey Wings, a blue Back, and red Feet. In bigneſs it anſwers to a Duck: The other ſort [*Erandgaas*] is a little leſs than a *wild Gooſe*. Its Head is grey: Its Neck compaſſed with a circle of red: Its Breaſt grey, in like

manner its Wings and Neck: Its Feet red. Theſe kinds of *Geeſe* are very rarely ſeen in the *Ferroyer* Iſlands, nor do they breed there. Whence they come, and whither they go no man knows. But the Inhabitants have a ſuperſtitious conceit, grounded upon long experience, that when they do appear they portend a change of Magiſtracy or Government. Beſide theſe here is alſo plenty of common *wild Geeſe*.

Geſners Wood-Crow. Aldrov. lib. 19. cap. 57.

OUr *Wood-crow* is of the bigneſs of a Hen, black all the body over, if you behold it at a diſtance. But if you view it near hand, eſpecially in the Sun, the black ſeems to be mingled with green. Its Feet are almoſt like a Hens, but longer: Its Toes divided: Its Tail not long. It hath a Creſt hanging down backwards from the Head, which I know not whether it be in all Birds of this ſort, and always. Its Bill is red, long, and fit to thruſt into the narrow chinks and holes of the Earth, Trees, Walls, and Rocks, to fetch out Grubs and Inſects lurking there, upon which it feeds. Its Legs are long, and of a dark red. I hear that it feeds upon Graſhoppers, Crickets, little Fiſhes, and Frogs. It builds for the moſt part in the high Walls of demoliſhed or ruinous Towers, which are common in the mountainous parts of *Switzerland*. In the ſtomach of one diſſected, beſides other Inſects I ſometimes found very many of thoſe which eat the roots of corn, eſpecially *Millet*; the *French* call them *Curtillas*, our Countrimen [the *Germans*] *Tuaren*, from the ſite of their Feet, as I conjecture. They eat alſo thoſe Grubs of which the *May-flies* are bred. They flie very high: They lay two or three Eggs. The firſt of all (as far as I know) fly away about the beginning of *June*, if I be not miſtaken. Their Young taken out of the Neſt before they can fly may eaſily be fed, and made ſo tame, as to fly out into the fields and return of their own accord. The young ones are commended for good meat, and counted a dainty: Their fleſh is ſweet, and their bones tender. Thoſe that take them out of the Neſts are wont to leave one in each, that they may the more willingly return the following year. They are called by our Country-men, *Wald-rapp*, that is *Wood-Crows*, becauſe they are wont to live in woody, mountainous, and deſert places: Where they build in Rocks, or old forſaken Towers: Wherefore alſo they are called *Steinrapp*, and elſewhere [in *Bavaria* and *Stiria*] *Clauſzrapp*, from the Rocks, or Crags, and ſtraits between Mountains, which the *Germans* call *Clauſen*, that is, encloſed places, wherein they build their Neſts.

Mr. *Willughby* ſuſpects this Bird to be no other than the *Coracias* or *Pyrrhocorax*: But if it be rightly deſcribed its bigneſs and the creſt on its head forbid it.

A SUMMARY OF FALCONRY,

Collected out of ſeveral Authors.

FAlconry is uſually divided into two parts: The firſt concerning the reclaiming and managing of Hawks: The ſecond concerning the diſeaſes of Hawks, their ſigns, prevention, and cures. Which method I ſhall alſo obſerve.

In the firſt part I ſhall give 1. An Expoſition of ſome words and terms of Art. 2. Some general obſervations. 3. I ſhall proceed to the managing and reclaiming of 1. Long-winged Hawks, *viz.* The *Falcon*, *Ger-falcon*, *Lanner*, *Merlin*, and *Hobby*. 2. Short-winged Hawks, *viz.* The *Goſhawk*, and *Sparrow-hawk*.

CHAP. I.

Terms of Art uſed in Falconry explained.

B.

Bating, is endeavouring to fly off the Fiſt or Pearch to which the Hawk is tied: from the French word *Battere*.

Bathing needs no explication.

Bowſing is when a Hawk drinks often, and ſeems to be continually thirſty.

A *Brancher*, *Vide* A *Ramage Hawk*.

C.

Crabbing is when Hawks, ſtanding too near, fight one with another.

A *Creance* is a fine ſmall long line of fine and even twined Packthred, which is faſtned to the Hawks Leaſe.

The *Cere* is that skin which covereth the baſe of a Hawks Bill, from the Latine word *Cera*, ſignifying Wax, becauſe it is in moſt birds of prey of the colour of Bees Wax; The skin of the Legs and Feet, as far as it is bare of feathers, is alſo ſo called.

Check, or to kill *check* is when Crows, Rooks, Pies, or other Birds coming in the view of the Hawk, ſhe forſaketh her natural flight to fly at them.

Caſting is any thing you give your Hawk to cleanſe her gorge with, whether it be Flannel, Thrums, Thiſtle down, Feathers, or the like. What ever you give them of this kind, over-night, or at any other time, it is the nature of theſe Birds to caſt it up again the next morning, or after a convenient time, made up into a lump or pellet.

A *Cadge* is that on which the Falconers carry many Hawks together, when they bring them to ſell.

To *Cope* a Hawk is to cut her Beak or Talons.

D.

Diſcloſed is newly hatcht.

Dropping is when a Hawk mutes directly downward, and jerketh it not longways from her.

E.

TO *Endew* is when a Hawk digeſteth her meat, not only putting it from her gorge, but cleanſing her pannel.

An *Eyas* or *Nyas* Hawk is a Hawk taken out of the Neſt, or brought away in the Neſt.

The *Eyrie* is the Neſt, or place where Hawks build and breed their Young.

G.

THe *Gorge* is that part of the Hawk which firſt receiveth the meat, called in other fowls the *Craw* or *Crop*.

Gurgiting is when a Hawk is ſtuft or ſuffocated with any thing, be it meat or ought elſe.

I.

THe *Ink*, whether it be of Partridge, Dove, or any other prey, is the Neck from the Head to the body.

Intermewd is from the firſt exchange of a Hawks coat, or from her firſt mewing till ſhe come to be a *white Hawk*.

Jeſſes are thoſe ſhort ſtraps of leather, which are faſtned to the Hawks Legs, and ſo to the Leaſe by Varvels, Anlets, or ſuch like.

To *Imp* is to put a feather into Wings or Train, inſtead of one loſt or broken: from the Latine *impono*.

L.

THe *Leaſe* is a ſmall long thong of leather, by which the Falconer holdeth his Hawk faſt, folding it many times about his finger.

The *Lure* is that whereto Falconers call their young Hawk, by caſting it up in the air; being made of Feathers and leather, in ſuch wiſe that in the motion it looks not unlike a fowl.

M.

THe *Mail* of a Hawk is the Breaſt or Plumage of the Breaſt in reference to its colour: So they ſay a Hawk changes the mail, or is white-maild, *&c.*

To *mail* a Hawk is ſo to wrap her up in a handkerchief, or other cloth, that ſhe may not be able to ſtir her Wings or ſtruggle.

Muting is the excrement or ordure that comes from a Hawk, and contains both dung and urine.

A *make-hawk* is an old ſtaunch flying Hawk, which being inured to her flight will eaſily inſtruct a younger Hawk.

To *make* or *manage* a Hawk, is by Art to prepare, fit, and inſtruct her to fly at any game.

The *Mew* is the place, whether it be abroad, or in the houſe, where you ſet down your Hawk during the time ſhe changes her feathers. The word *mew* ſignifies to change, being derived of the Latine *muto*.

N.

THe *Nares*, *i. e.* The Noſthrils: It is a Latine word.

P.

PLuming is when a Hawk ſeizeth on a Fowl, and plucks the feathers from the body.

Plumage are ſmall downy feathers, which the Hawk takes, or are given her for caſting.

The *Pelt* is the dead body of any fowl however diſmembred.

The

The *Pill* and *pelf* of a fowl is that broken remains or refuſe, which are left after the Hawk hath been relieved.

The *Plume* is the general colour or mixture of feathers in a Hawk, which ſheweth her conſtitution.

A *Pearch* is that whereon you ſet down your Hawk when you put her off your fiſt.

The *Pannel* is that part of the Hawk next her fundament. I take it, they mean the ſtomach [*ventriculus*] by this word.

Q.

THe *Quarry* is the fowl which is flown at, and ſlain at any time, eſpecially when young Hawks are flown thereto.

R.

A *Ramage-Hawk* or Brancher is a young Hawk that hath juſt left the Neſt, but flies not far from it, only leaping from bough to bough, and following the old one.

Ramage is alſo ſaid of a Hawk that is wild, coy, or diſdainful to the man, and hard to be reclaimed.

Reclaiming is to tame, make gentle, or bring a Hawk to familiarity with the man.

A *Rufter-hood* is the firſt hood a Hawk wears, being large, wide, and open behind.

S.

THe *Sarcel* is the extreme pinion feather in a Hawks Wing.

Seizing is when a Hawk takes any thing into her foot, and gripeth or holdeth it faſt.

Slicing, is when a Hawk muteth from her long-ways, in one entire ſubſtance, and doth not drop any part thereof.

Stouping is when a Hawk being on her Wings at the height of her pitch, bendeth violently down to ſtrike her prey.

Summed is when a Hawk hath all her feathers, and is fit to be taken out of the mew.

Setting down is putting a Hawk into the mew.

A *Sore-hawk* is from the firſt taking her from the Eyrie till ſhe hath mew'd her feathers.

To *Seel* a Hawk is artificially to ſow up her Eyes, ſo that ſhe may ſee but little.

T.

THe *Train* of a Hawk is her Tail.

Truſſing is when a Hawk raſeth a fowl aloft, and ſo deſcendeth down with it to the ground.

To *truſs* a Hawk is to tye her Wings ſo as ſhe cannot ſtir them.

U.

UN*ſummed* is when a Hawks feathers are not come forth, or not come to their full length.

Varvels joyning the *Jeſſes* to the Leaſe.

W.

W*Eathering* is ſetting abroad your Hawk to take the air either by day or by night, in the froſt or in the Sun, or at any other ſeaſon.

CHAP.

Chap. II.

Some general Rules and Obſervations for a Falconer or Oſtrager to remark and practiſe, collected out of Carcanus *and other Authors.*

1. A Falconer out to learn and mark the quality and mettle of his Hawks, to know which he ſhall fly with early, and which late.

2. He muſt be fond of his Hawk, patient with her, and careful to keep her clean of Lice and Mites, *&c.*

3. He muſt rather keep his Hawk high and full of fleſh than poor and low, being when poor much more ſubject to infirmities.

4. Every night after flying he muſt give her Caſting, ſometimes Plumage, ſometimes pellets of Cotton, or the like: Sometimes alſo he muſt give her Phyſic, as by her caſting and mewts he ſhall perceive her to need it.

5. Every night he muſt make the place very clean under her Pearch, that he may know aſſuredly whether ſhe hath caſt or not; and by her caſting whether ſhe needs ſcouring, Stones, or the like.

6. He muſt remember every day to weather his Hawk in the Evening; excepting ſuch days wherein ſhe hath bathed; after which in the Evening ſhe ſhould be put in a warm room, on a Pearch with a Candle burning by her, where ſhe muſt ſit unhooded if ſhe be gentle, to the end ſhe may trick her ſelf, and rejoyce by enoiling her after the water, before ſhe fly again. In the morning early he muſt alſo ſet her out to weather, where ſhe may caſt, if ſhe hath not done it already, and there keep her hooded till ſuch time as ſhe goes into the field.

7. In feeding his Hawk he muſt beware of giving her two ſorts of meat at one time; and have a care that what he give her be perfectly ſweet.

8. If he have occaſion to go abroad, let him not leave his Hawk tied on too high a Pearch, for fear of bating and hanging by the heels, whereby ſhe may ſpoil her ſelf. Two Hawks muſt not be ſet ſo near as to approach one another, for fear of crabbing.

9. He ought to carry into the field with him mummy in powder, with other medicines; for frequently the Hawk meets with many accidents, as bruiſes at encounters, *&c.* nor muſt he be unfurniſhed with Aloes waſht, Cloves, Saffron, Caſting, Cryance, and ſuch like neceſſary implements, as coping Irons to cope the Beak and Talons, if need be.

10. He muſt be able to make his Lures, Hoods, Jeſſes, Bewets, and other needful furniture.

Chap. III.

Of the reclaiming and managing long-winged Hawks, and firſt of the Falcon.

§. I.

Of the reclaiming and making a Falcon, out of Turbervile, *according to* Tardiff, *as I ſuppoſe.*

A Falcon newly taken ſhould be ſeel'd in ſuch ſort, that when the ſeeling begins to ſlacken, ſhe may ſee forwards the meat that is ſtreight before her, for ſhe is better content when ſhe ſees it ſo, than if ſhe ſaw it ſideways, or looking back. And ſhe ſhould not be ſeel'd too ſtreight.

Such a Hawk ſhould have all new furniture, as new Jeſſes (maild) a Leaſe made with a button at the end, and new Bewets. You muſt alſo have a little round ſtick hanging in a ſtring, with which you muſt frequently ſtroak your Hawk. For the more ſhe is handled, the ſooner and better will ſhe be reclaimed and manned, ſhe muſt have two good Bells, that ſhe may the better be found and heard when ſhe ſtirreth or ſcratteth. Her Hood muſt be well faſhioned, raiſed and boſſed againſt her Eyes, deep, and yet ſtreight enough beneath, that it may better abide on her head without hurting her. You muſt alſo a little cope her Beak and Talons, but not ſo near as to make them bleed.

The

The *Soar-Falcon*, which hath been timely taken, and already paſſed the Seas, is held by ſome to be the beſt *Falcon*, and alſo hard to be won and manned: Such an one you muſt feed with warm meat, as Pigeons, and ſuch like quick birds, until ſhe be full gorged, twice a day for three days. For you muſt not all at once break her off her accuſtomed diet, which was warm meat.

When you feed her you muſt whoop and lure as you do when you call a Hawk, that ſhe may know when you will give her meat.

You muſt unhood her gently, giving her two or three bits, and putting on her Hood again give her as much more. Be ſure that ſhe be cloſe ſeeled. After three days, if you perceive her feed with a good appetite, begin to abate her meat, giving her but little at once and often till Evening, and bear her late on your fiſt before you go to bed, ſetting her near you, that you may wake her often in the night. Before day take her on your fiſt again, with ſome quick bird. After two or three nights, when you find ſhe begins to grow gentle, and feed eagerly on good meat, change her diet, giving her ſheeps heart, often, but little at once.

Late at Even let her ſeeling thread a little looſe, ſpouting water in her face, that ſhe may jeouk the leſs, and watching her all night hold her upon your fiſt unhooded. But if ſhe ſee any thing ſhe miſlikes, and makes ſhew of being afraid, carry her into ſome dark place, where you have no more light but to hood her again. Afterwards give her ſome beaching of good meat; and watch her divers nights together till ſhe be reclaimed, and jeouk upon the fiſt by day. Although to let her jeouk alſo ſometimes in the night will make her the ſooner manned. In the Morning by break of day give her warm meat. When ſhe begins to be acquainted you may unhood her in the day time far from company; at taking off, and after putting on the Hood, giving her a bit or two of meat. For to unhood her in a place where ſhe may be frayed is enough to mar her at firſt. When ſhe begins to be acquainted with company, and is ſharp-ſet, unhood her, and give her a bit or two, holding her right againſt your face, for that will cauſe to dread no company. At night cut the thread wherewith ſhe was ſeeled. You need not watch her, but only ſet her by you, and wake her two or three times in the night. For over-watching is not good, if ſhe may be reclaimed otherwiſe. When you have brought her thus far, then give her waſht meat, laid in clear water half a day, and beach her in the morning, that ſhe may always have ſomewhat in her gorge. Cauſe her to feed in company, giving her about Sun-riſing the wing of a Hen or Pullet, and at Evening take the foot of a Hare or Coney, chopt off above the joynt, and flay it, cutting away the Claws; ſteep the skin in fair water (preſſing and wringing it a little) the which you ſhall give her with the joynt of the pinion of a Hens wing. Give your Hawk no feathers till ſhe be throughly reclaimed: For till then ſhe dares not caſt on the fiſt: and on the fiſt you muſt bear her till ſhe be throughly manned. When ſhe makes ſemblance to caſt, unhood her gently by the taſſel of the hood. [You may give her two days waſht meat, and the third Plumage, as ſhe is clean or foul within.] When ſhe hath caſt, hood her again, giving her nothing to eat till ſhe hath gleamed after her caſting; but when ſhe hath caſt and gleamed give her a beaching of hot meat in company, by two or three bits at once: And at Evening make her plume a Hens wing, being in company alſo.

If the feathers of her caſting be foul or ſlimy, and of a yellowiſh colour, be ſure to cleanſe her with waſht meat and caſting: If ſhe be clean within, give her not ſo ſtrong caſting as Hares feet, but the pinion of an old Hens wing, or the neck-bone chopt four or five times between the joynts, waſhed and ſteeped in fair water.

§. II.

How to lure a Hawk lately manned.

HAving well reclaimed her, throughly manned her and made her eager and ſharp-ſet, then you may venture to feed her on the lure.

But before you ſhew her the lure you muſt conſider theſe three things: 1. That ſhe be bold and familiar in company, and no ways afraid of Dogs and Horſes. 2. That ſhe be ſharp-ſet and hungry, regarding the hour of the Morning and Evening when you will lure her. 3. That ſhe be clean within. The Lure muſt be well garniſhed with meat on both ſides, and you muſt abſcond your ſelf when you would give her the length of the Leaſe. You muſt firſt unhood her, giving her a bit or two on the Lure, as ſhe ſitteth on your fiſt: Afterwards take the Lure from her, and ſo hide it that ſhe ſee it

not; and when she is unseized, cast the Lure so near her that she may catch it within the length of her Lease; use your voice according to the custom of Falconers, and feed her upon the Lure on the ground, with the heart and warm thigh of a Pullet. Having so lured her at Evening give her but a little meat, and let this luring be so timely that you may give her Plumage, and the jack of a joynt.

In the Morning betimes take her on your fist, and when she hath cast and gleamed give her a little beaching of warm meat. Afterwards when it is time to feed her, take a Creance, and tie it to her Lease, and go into some pleasant field or meadow, and give her a bit or two on the Lure; and if you find that she is sharp-set, and hath seized eagerly on the Lure, then give her some one to hold, to let her off to the Lure. Then unwind the Creance, and draw it after you a good way; and let him which holds the Hawk hold his right hand on the Tassel of the Hawks hood in readiness, so that he may unhood her as soon as you begin to lure: And if she come well to the Lure, and stoop upon it roundly, and seize it eagerly, then let her eat two or three bits thereon. Then unseize her and take her off the Lure, hood her, and deliver her again to him that held her, and going further off lure her, feeding her as before with the accustomed voice. Thus lure her every day further and further off, till she is accustomed to come freely and eagerly to the Lure. After this lure her in company, but have a care that nothing affright her and when you have used her to the Lure on foot, then lure her on horseback, which you may effect the sooner, by causing horsemen to be about you when you lure her on foot: Also you may do it the sooner by rewarding her upon the Lure on horse-back among horsemen. When this way she grows familiar, let some body on foot hold the Hawk, and he that is on horseback must call and cast the Lure about his head. Then must the holder take off the hood by the Tassel: And if she seize eagerly upon the Lure, without fear of man or horse, then take off the Creance, and lure her loose at a greater distance. And if you would have her love Dogs as well as the Lure, call Dogs about you when you feed her, or give her Tiring or Plumage.

§. III.

Of bathing a Falcon lately reclaimed, and how to make her flying, and to hate the Check.

HAving weaned your Hawk from her ramageness, she being both ways lured, throughly reclaimed, and likewise in good case, offer her some water to bathe her self in, in a Bason, wherein she may stand up to the thighs, chusing a temperate, clear day for that purpose. Having lured your Hawk, and rewarded her with warm meat, in the Morning carry her to some bank, and there hold her in the Sun till she hath endewed her gorge, taking off her hood, that she may preen and pick her self: That being done hood her again, and set her near the Bason, and taking off her hood let her bathe as long as she pleases: After this take her up, and let her pick her self as before, and then feed her. If she refuse the Bason to bath in, shew her some small River or Brook for that purpose. By this use of bathing she gains strength and a sharp appetite, and thereby grows bold: But that day wherein she batheth give her no washt meat.

If you would make your Falcon upwards, the next day after she hath bathed get on horse-back, either in the Morning or Evening, and chuse out some field wherein are no Rooks or Pigeons: Then take your Lure well garnished on both sides, and having unhooded your Hawk give her a bit or two on the Lure, then hood her: Afterwards go leisurely against the Wind, then unhood her, and before she bate, or find any Check in her eye, whistle her off from your fist fair and softly. As she flieth about you trot on with your horse, and cast out your Lure, not suffering her to fly long about you at first: Continue thus doing Morning and Evening for seven or eight days. But if you find your Hawk unwilling to fly about you, or stoop to the Lure, then must you let her fly with some Hawk that loves the company of others, and will not rove at any Change or Check: And that must first be done at a *Partridge*, for they will not fly far before the Hawk. If she hath flown twice or thrice, cast out the Lure, and reward her on horse-back, feeding her up to a full gorge, on the ground, with good hot meat, to make her more couragious and resolute in flying, and to return to you with a better will. If the fowl you flew her at be killed by another Hawk, let her feed with him a little, and then further reward her on the Lure.

If you would have your Hawk prove upwards and high-flying, you muſt let her fly with ſuch as are ſo qualified. If ſhe love the company of others, and is taught to hold in the Head, then if the Fowl be in Pool, Pit, or Plaſh, caſt off your high-flying Hawk, and let him that hath your new-lured Hawk get under the Wind, and when he ſeeth his advantage let him unhood her, and if ſhe bate, it is out of deſire to get up to the other Hawk. Let him then caſt her off, and before ſhe get up to the other, now near his full pitch, lay out the Fowl. If ſhe kill her Game reward her with the heart, and let her partake of the Breaſt with the other Hawk.

To take your Falcon from going off to any *check*, thus you muſt do. If ſhe hath killed a *check*, and hath feed thereon before you could come in, rebuke her not ſeverely at firſt, but take her down to the Lure, give her a bit or two, hood her, and fly her not in three or four days; and if you do, let it be where no *checks* are: But if you come in before ſhe hath taſted the *check* ſhe hath killed, then take the Gall of a Hen and anoint the breaſt of the fowl ſhe hath killed [any other bitter thing will do, but you muſt not put on too much] and this will make her hate to go at *Check* again, hvi ng little liſt to fly at ſuch a fowl.

§. IV.

How to enſeam and make a Falcon, with her caſtings and ſcowrings, &c.

THe longer a Falcon hath been in the Falconers hands the harder ſhe is to be enſeamed: Becauſe a Hawk that preyeth for her ſelf feeds cleaner and better according to her nature; and hath the benefit of open air, and more exerciſe. When you draw your Hawk out of the Mew, if ſhe be greaſie, (which you ſhall know by the roundneſs of her thighs, and fulneſs of her body, the fleſh being round, and as high as her Breaſt bone,) and if ſhe be well mew'd, and have all her feathers full ſummed, then give her in the Morning a bit or two of hot meat: at night give her but little, unleſs it be very cold. If ſhe feed well and freely, then give her waſht meat thus prepared: Take the Wings of a Hen or Pullet for her dinner, and waſh them in two waters; and if you give her Hares fleſh or Beef, let it be waſhed in three waters: On the morrow give her the Leg of a Hen very hot, and at Noon meat temperately warm, a good gorge, then let her faſt until it be late in the Evening; and if ſhe have put over her meat, then give her a little warm meat, as you did in the Morning, and thus let her be dieted till it be time to give her Plumage: Which you ſhall know by three tokens. 1. By the tenderneſs and ſoftneſs of the fleſh at the end of the pinion of the Wing, above what it was before ſhe eat waſht meat. 2. By the mewts being clean and white, the black thereof being right black, and not mingled with any foul thing or colour. 3. If ſhe be ſharp-ſet and plume eagerly. You may give her caſting of a Hares or Conies foot, as was before preſcribed, or the ſmall feathers on the pinion of an old Hens Wing.

Having ſet her on the Pearch, ſweep clean underneath, that you may ſee whether the mewt be full of ſtreaks, or skins, or ſlimy: If it be, then continue this ſort of caſting three or four nights together; but if you find the feathers digeſted and ſoft, and that her caſting is great, then take the Neck of an old Hen, and cut it between the joynts; then lay it in cold water, and give it your Falcon three nights together: In the day-time give her waſht meat after this caſting or plumage, as you ſhall ſee requiſite: And this will bear all down into the pannel.

When you have drawn your Falcon out of the Mew, and her principal feathers be not yet full ſummed, but ſome in the quill, do not give her waſht meat, but quick birds, and good gorges thereof, and ſet her as much as may be in open places, for otherwiſe her feathers may chance to ſhrink in the quil and come to nothing.

When you feed your Falcon call and lure as if you called her to the Lure, and every day profer her water, and every night give her caſtings accordingly as ſhe endeweth. Take off her hood frequently in company, that you may hinder her from bating, holding the hood always ready by the Taſſel in your hand.

In the Evening by Candle-light take off her hood among company, till ſhe rowze and mewt; then ſet her on the Pearch, and not before, ſetting a light before her.

Every Falcon ought to have a *Make-Hawk* to teach her to hold in the head: If that will not do, cut off ſome part of her two principal feathers in each Wing, the long one, and that next to it, which will force her to hold in.

Be ſure to reward your Hawk well at the beginning, and let he feed well on the Quarry, which will ſo encourage her that ſhe will have no fancy to go out to the Check. When ſhe is well in bloud and well quarried, then let her fly with other Hawks.

If you would make your Falcon to the Crane, her Lure ſhould be a counterfeit Crane. If you would make her to the Hare, her Lure ſhould be then a Hares Skin ſtuft with ſome light matter: When ſhe is well lur'd, and you would enter her, tie the Hares Skin ſo ſtuft to the end of a Creance, and faſten it to your Saddle-pummel, by which means when you gallop it will reſemble a running Hare: Then unhood your Hawk, and cry, *Back with the Dogs, Back with the Dogs.* When you find ſhe hath ſeized it, let go your Creance, and ſuffer her to faſten thereon; then inſtantly reward her upon it, and encourage her as much as is poſſible.

When ſhe is well entred after this manner, take a living Hare and break one of her hinder Legs, and having before well acquainted your Falcon with your Dogs by continual feeding among them, I ſay then put your Hare out in ſome fair place with your Dogs, and the Falcon will ſtoop and *ruff* her until the Dogs may take her; then take the Hare from the Dogs, and caſt her out to the Falcon, crying, *Back, back there.*

If you would make your Hawk flying to the Partridge or Pheaſant after ſhe is reclaimed and made, then every time you lure her caſt your Lure into ſome low Tree or Buſh, that ſhe may learn to take the Tree or *Stand:* If ſhe take the Stand before ſhe ſees the Lure, let her ſtand a while, and afterwards draw the Lure out before her, and cry with what words you have acquainted her to underſtand you by, and then reward her well. After this manner ſhe will learn to take *ſtand.*

Feed her always on the ground, or in ſome thick place, for in ſuch places ſhe muſt incounter with the Pheaſant at Pearch.

At firſt fly with her at young Pheaſant or Partridge, to encourage her by advantage, and afterwards at the old.

If a Falcon will not take *ſtand*, but keep on the Wing, then muſt you fly her in plain places where you may always ſee her upon you.

Draw your Falcon out of the *Mew* twenty days before you *enſeam* her: If ſhe *truſs* and *carry*, the remedy is to cope her *Talons*, her *Powlſe* and *petty-ſingle.*

Never reward your Hawk upon River-fowl, but upon the Lure, that ſhe may the better know, love, and eſteem thereof.

The Crane ought to be flown at before Sun-riſing, for ſhe is a ſlothful Bird, and you may caſt off to her a *Caſt* or *Leaſe* of Falcons, or a Goſhawk from the Fiſt, without Dogs. You muſt fly but once a day at the Crane, after which you muſt reward your Hawk very well, ever ſuccouring her with the Greyhound, which is the beſt of Dogs for that purpoſe.

Give your Falcon a Beaching very early in the Morning, and it will make her very eager to fly when it is time for it.

If you would have her a high-flying Hawk, you muſt not feed her highly, but ſhe ſhould be fed nine days together before Sun-riſing, and at night late in the cool of the Evening.

The Falcon will kill the Hern naturally if ſhe be a Peregrin or Traveller: Yet you will do well to give her *Trains.*

A Falcon may fly ten times in a day at a River, if the Seaſon be not extreme, but more is inconvenient.

A Hawk ought to have forty Caſtings before ſhe be perfectly made. And indeed all Hawks ought to have Caſtings every night, if you would have them clean and ſound: For Hawks which have not this continual nocturnal Caſting will be ſurcharged with abundance of ſuperfluous Humours, which aſcending to the Brain, breed ſo great a diſturbance that they cannot fly ſo high as otherwiſe they would. And it is good to give them Tiring or Plumage at night, eſpecially Field-Hawks, but not River-Hawks, for fear of weakning their Backs.

When your Hawk hath flown or bated, feed her not ſo long as ſhe panteth, (but let her be firſt in breath again;) otherwiſe you may bring her into a diſeaſe called the *Pantas.*

If a Falcon or other Hawk will not *ſeiſe* nor *gorge*, take the Quill of a Wild-gooſe, and tie it under her long-*Single*; then will ſhe *ſeiſe* and *gripe.* When ſhe beginneth to ſeiſe, take away the ſaid Quill, and ſhe will ſeiſe long afterwards.

If you cannot give Covert to your Falcon or Goſhawk, then caſt her off with the Sun in her back.

CHAP.

Chap. IV.

How to man, hood, and reclaim a Falcon according to an Italian Falconer, quoted by Turbervile.

LEt his *Jesses* and *Bewets* be of good Leather, having Bells big and shril according to the proportion of the Hawk, with a Hood that is bossed at the Eyes, and sizable for the Head.

He must use his Hawk in such manner that he may make her grow familiar with him alone, or in company, and to that end he must often unhood and hood her again.

In nine nights the Falconer ought not to let his Hawk *jouk* at all, nor suffer her to pearch, but keep her during that time continually on his Fist.

When the Falconer would call his Hawk, let him set her on the Pearch, unhood her, and shew her some meat within his Fist, call her so long till she come to it, then feed her therewith: If she come not, let her stand without food till she be very sharp set. Observe this order for about nine days.

When you would lure her, give her some man to hold, and call her with a Lure well garnished with meat on both sides, and give her a bit: Use her to this six or seven days, then cause her to be held farther from you, and cast the Lure about your head, and throw it on the ground a little way from you: if she come to it roundly, reward her bountifully, walking softly about her while she is feeding on the Lure, and using your voice. Having used her to this some certain days, take your Lure garnished as aforesaid, and every day call her to you as far as she may well see or hear you, and let her be loose from all her furniture, without *Loins* or *Creance*. If she come freely, reward her, and stop her now and then in her feeding, for that will make her come the better. Call her also sometimes on horseback. After you have thus used her a month, or till she will come freely to you, you may do well to stop the Lure upon her sometimes, and let her fly upon you. Here note, it is requisite to bathe her before you take this course, lest when she is at liberty she *rangle* to seek water, and in the mean time you lose your Hawk; wherefore bathe her every seven or eight days, for her nature requireth it.

When you have thus manned, reclaimed, and lured your Hawk, go out with her into the Fields, and whistle her off your Fist, standing still to see what she will do, and whether she will *rake* out or not: But if she fly round about you, as a good Hawk ought to do, let her fly a Turn or two, and fling her out the Lure, and let her *foot* a Chicken or Pullet, and having killed it, let her feed thereon.

Unhood he often as you bear her, continue so doing till she hath endewed and mewted sufficiently.

Your Hawk being thus made and mann'd, go abroad with her every Morning when it is fair, and let the place where you intend to fly her be plashy, or some narrow Brook; and when you cast her off, go into the Wind so far that the Fowl may not discover you. When she is cast off, and beginneth to recover her *Gate*, make then to the Brook or Plash where the Fowl lie, always making your Hawk to *lean* in upon you: And when you see her at a reasonable pitch, (her Head being in) lay out the Fowl, and land it if you can; and if you cannot, take down your Hawk, and let her kill some *Train*, to which end you must always carry some live Fowl with you, as a Duck, *&c.* And having slipt one of her Wing-feathers, thrust it through her *Nares*, and cast her up as high as you can underneath your Hawk, that she may the better know your hand. Never fly a young Hawk without some *Train*, that if she fail to kill the wild Fowl, you may make her kill that.

If you would have your Hawk fly at one particular Fowl more than at another, you must then feed her well upon a *Train* of the same kind, as thus: Take a Creance and tie that Fowl you would accustom her to fly to by the Beak, with meat on her back, and cause one to stand close that shall hold the Creance; then standing afar off unhood your Hawk, and let the Fowl be stirr'd and drawn with the Creance until your Hawk perceive it stir; and if she *foot* it, make another *Train* thus: Take a living Fowl that can fly, half *feel* it, and cast it out; then let your Hawk fly to it; and if she kill it, reward her well upon it.

Chap. V.

How to man and make a Falcon according to Carcanus *the* Vicentine, *abbreviated.*

§. I.

Of the Eyaſs or Nyaſs Falcon.

THeſe, he ſaith, ſeldom prove well, and require much pains and patience to make them kill and ſtoop a Fowl well, or fly to a high pitch.

But if any one will needs be doing with them, he adviſes him, firſt to make them to the *Heron* from the Fiſt, or to other ſuch great fowls; for that they are bold and hardy birds, and good ſeiſers.

After they are entred to theſe and well in bloud, you may make them to the River going into ſome large field, where there be Crows, or ſome other great Fowl, with your Hawk on your fiſt; looſe her hood in a readineſs, drawing as near the Fowl as you can; and the firſt fowl that ſprings unhood her and let her fly from the fiſt to it; that it may draw the Hawk upwards. When ſhe is at a reaſonable pitch, throw her out a Duck or Mallard ſeel'd, with a feather through the *Nares*, and if ſhe kill it, then reward her well, and feed her upon it with as much favour as you can, always luring and crying to her to encourage her.

§. II.

Of the Ramage-Falcon.

IF a Falconer chance to recover a Ramage-Hawk that was never handled before, let him immediately ſeel her, and at that inſtant put on her Jeſſes made of ſoft Leather, at the end thereof fix two Varvels, the one may bear your Coat of Arms, the other your Name, that if ſhe chance to be loſt, they that take her up may know where to return her: Put her on alſo a pair of Bells with two proper Bewets. Having thus furniſhed her, you muſt begin her manning by gentle handling. To avoid the danger of her Beak, you muſt have a ſmooth ſtick about half a foot in length, with which you muſt ſtroak your Hawk about the Pinions of her Wings, and ſo downwards thwart her Train. If ſhe offer to ſnap at the Stick, withdraw not your hand, and let her bite thereon, the hardneſs whereof will ſoon make her weary of that ſport.

If you would man her well, you ſhould watch all the night, keeping her continually on your Fiſt.

You muſt teach her to feed ſeel'd; and having a great and eaſie Rufter-hood, you muſt hood and unhood her often, ſeel'd as ſhe is, handling her gently about the Head, *coying* her always when you unhood her, to the intent ſhe may not be diſpleaſed with her Keeper.

Let her plume and tire ſometimes upon a Wing on your Fiſt, keeping her ſo day and night, without perching, until ſhe be weary, and will ſuffer you to hood her without ſtirring.

If your Hawk be ſo rammage that ſhe will not leave her ſnapping or biting, then take a little *Aloes ſocotrina*, and when ſhe offers to ſnap, give it her to bite; the bitterneſs whereof will quickly make her leave that ill quality. Garlick I have heard will do the like, the ſtrong ſent thereof being equally offenſive.

§. III.

How to hood a Hawk.

HAving ſeel'd your Hawk, fit her with a large eaſie Hood, which you muſt take off and put on very often, watching her a night or two, handling her frequently and gently about the Head as aforeſaid. When you perceive ſhe hath no averſion to the Hood, unſeel her in an evening by Candle-light, continue handling her ſoftly, often hooding and unhooding her, until ſhe takes no offence at the Hood, and will patiently endure handling.

Take

Take this Obſervation by the way, that it is the duty of a Falconer to be endowed with a great deal of Patience; and in the next place he ought to have a natural love and inclination to Hawks: without theſe two qualifications all the Profeſſors of this Art will prove *Mar-Hawks* inſtead of good Falconers.

But to return where I left off: If your ſeeled Hawk feeds well, abides the Hood and handling without ſtriking or biting, then by Candle-light in an Evening unſeel her, and with your finger and ſpittle anoint the place where the Seeling-thread was drawn through; then hood her, and hold her on your Fiſt all night, often hooding, unhooding, and handling her, ſtroaking her gently about the Wings and Body, giving her ſometimes a bit or two, alſo Tiring or Plumage. Being well reclaimed from ſtriking and biting at your hand, let her ſit upon a Pearch; but every night keep her on the Fiſt three or four hours, ſtroaking, hooding, and unhooding, *&c.* as aforeſaid: And thus you may do in the day-time, but in a Chamber apart, where ſhe may ſee no great light, till ſhe feed ſurely and eagerly without dread.

§. IV.

How to make a Hawk know your Voice, and her own Feeding.

HAving mann'd your Hawk ſo that ſhe feeds boldly, acquaint her with your Voice, Whiſtle, and ſuch words as Falconers uſe: You may do it by frequently repeating them to her as ſhe is feeding on your Fiſt, *&c.* But I think the beſt way of making her acquainted with them is by your experience and practice. If your Hawk be not eager or ſharp-ſet, waſh her meat ſometimes in fair water, and other whiles in Urine, wringing it a little, and feeding her with it for two or three gorges, intermitting a day or two.

When ſhe feeds boldly, and knows your Voice and Whiſtle, then teach her to know her Feeding, and to bate at it, in this manner. Shew her ſome meat with your right hand, crying and luring to her aloud: if ſhe bate or ſtrike at it, then let her quickly and neatly foot it, and feed on it for four or five bits. Do thus often, and ſhe will know her Feeding the better.

After this give her every night ſome Caſting either of Feathers, or Cotton with Cloves or Aloes wrapt up therein, *&c.* Theſe Caſtings make a Hawk clean and eager.

§. V.

How to make your Hawk bold and venturous.

IN the firſt place, to make her hardy, you muſt permit her to plume a Pullet or large Chicken in a place where there is not much light: Her Hood in a readineſs, you muſt have either of the aforeſaid alive in your hand; then kneeling on the ground, luring and crying aloud to her, make her plume and pull the Pullet a little; then with your teeth drawing the Strings, unhood her ſoftly, ſuffering her to pluck it with her Beak three or four times more; then throw out the Pullet on the ground, and encourage her to ſeiſe it. When you perceive ſhe breaks it and takes bloud, you muſt lure and cry aloud to her, encouraging her all the wayes imaginable: Then hood her gently, and give her Tiring of the Wing or Foot of the ſaid Pullet.

§. VI.

How to make a Hawk know the Lure.

YOur Hawk having three or four times thus killed a Pullet or large Chicken in ſome ſecret place, then thus teach her to know the Lure.

Having faſtned a Pullet unto your Lure, go apart, giving your Hawk unto another, who muſt draw looſe the ſtrings of her Hood in readineſs: Being gone a little way, take half the length of the String, and caſt it about your Head, luring with your voice at the ſame time; then let your Hawk be unhooded as you are throwing your Lure a little way from her, not ceaſing luring all the while. If ſhe ſtoop to the Lure and ſeize, ſuffer her to plume the Pullet, ſtill *coying* and luring with your voice; then let her feed on the Pullet upon the Lure: After that take her on your Fiſt together

ther with her meat, then hood her and let her tire as aforesaid. And thus you may teach her to come by degrees to a very great distance.

§. VII.

How to make a Hawk flying.

WHen your Hawk or Haggard-Falcon will come and stoop to the Lure roundly without any fear or coynes, you must put her on a great pair of Luring-bells; the like you must do to a Soar-Hawk: By so much greater must the Bells be by how much your Hawk is giddy-headed, and apt to *rake* out at *Check*.

That being done, and she sharp set, go in a fair morning into some large Field on Horseback, which Field must be very little incumbred with Wood or Trees: Having your Hawk on your Fist, ride up into the wind, and having loosned her Hood whistle softly, to provoke her to fly; and then you will observe she will begin to bate, or at least to flap with her Flags and Sails, and to raise her self on your Fist: Then suffer her until she rouze or mewt: When she hath done either of them, unhood her, and let her fly with her Head into the wind, for thereby she will be the better able to get upon the Wing; then will she naturally climb upwards, flying in a circle.

When she hath flown three or four Turns, then cry and lure with your voice, casting the Lure about your head, unto which you must first tie a Pullet: And if your Falcon come in and approacheth near you, then cast out the Lure into the wind; and if she stoop to it, reward her as before.

There is one great fault you will often find in the making of a Hawk flying, and that is, when she flieth from the Fist she will not get up, but take stand on the ground; a frequent fault in Soar-Falcons. You must then fright her up with your Wand, riding in to her; and when you have forced her to make a Turn or two, take her down and feed her. But if this do no good, find out some Chough, Starling, or such like bird, and making ready your Hawks Hood, draw as near them as you may till they rise. Then unhood your Hawk, and no doubt if she will fly them, they will train her well upwards. Then you must have in readiness a Duck seel'd so that she may see no way but backwards, and that will make her mount the higher. This Duck you must hold by one of the Wings near the body in your right hand, then lure with your voice to make your Falcon turn the head: When she is at a reasonable pitch, cast up your Duck just under her, that she may perceive it: If she *strike*, *stoop*, or *truss* the Duck, permit her to kill it, and reward her, giving her a reasonable Gorge. Use this custom twice or thrice, and your Hawk will leave the Stand, delighting on the Wing, and will become very obedient.

Here note, that for the first or second time it is not convenient to shew your Hawk great or large Fowl, for it often happens that they slip from the Hawk into the wind; the Hawk not recovering them, *raketh* after them, which puts the Falconer to much trouble, and frequently occasions the loss of his Hawk.

But if it so chance that your Hawk so *rake* out with a Fowl that she cannot recover it, but gives it over, and comes in again directly upon you, then cast out a seeled Duck; and if she stoop and truss it, cross the Wings, and permit her to take her pleasure, rewarding her also with the Heart, Brains, Tongue, and Liver. For want of a quick Duck, take her down with the dry Lure, and let her plume a Pullet, and feed her upon it.

By so doing your Hawk will learn to give over a Fowl that *rakes out*, and hearing the Lure of the Falconer, will make back again to the River, and know the better to hold in the Head.

§. VIII.

A flight for a Haggard.

WHen you intend a Flight for a Haggard, for the first, second, and third time make choice of such a place where there are no Crows, Rooks, or the like, to take away all occasion of her *raking* out after such *Check*.

Let her not fly out too far on head at the first, but run after and cry, *Why lo, why lo,* to make her turn Head. When she is come in, take her down with the Lure, unto which must be fastned a live Pullet, and let her tire, plume, and feed as aforesaid.

Sometimes

Sometimes a Haggard out of pride and a gadding humour will *rangle* out from her Keeper: Then clog her with great Luring-bells, and make her a Train or two with a Duck seel'd, to teach her to hold in and know her Keeper: Take her down often with the dry Lure, and reward her bountifully, and let her be ever well in bloud, or you may whoop for your Hawk to no purpose.

§. IX.

How to make a Soar-Falcon or Haggard kill her Game at the very first.

IF she be well lured, flieth a good Gate, and stoopeth well, then cast off a well quarried Hawk, and let her stoop a Fowl on Brook or Plash, and watch her till she put it to the plunge; then take down your *Make-Hawk*, reward her, hood her, and set her: So you may make use of her if need require.

Then take your Hawk unentred, and going up the wind half a Bow-shot, loose her Hood, and softly whistle her off your Fist, until she have rouzed or mewted: Then let her fly with her Head into the wind, having first given notice or warning to the company to be in readiness against the Hawk be in a good Gate, and to shew water, and to lay out the Fowl.

When she is at a good pitch, and covering the Fowl, then notifie that all the company make in at once to the Brook upon the Fowl, to land her: If your Falcon strike, stoop or truss her Game, run in to help her, and crossing the Fowls Wings, let her take her pleasure thereon.

If she kill not the Fowl at first stooping, give her then respite to recover her Gate. When she hath got it, and her Head in, then lay out the Fowl as aforesaid, until you land it at last; not forgetting to help her as soon as she hath seized it, giving also her due Reward. You shall do well always to have a quick Duck in readiness, that if the Hawk kill not the Fowl stooped you may feel and throw it up to her being at her pitch.

§. X.

Remedy for a Hawks taking Stand in a Tree.

IN the first place you must chuse such places where are no Wood or Trees, or as little as may be. If you cannot avoid it, then have two or three live Trains, and give them to as many men, placing them conveniently for to use them. When therefore your Hawk hath stooped, and endeavours to go to Stand, let him to whom the Hawk most bends cast out his *Train-Duck* seel'd: If the Hawk kill her, reward her therewith. If this course will not remedy that fault in her by twice or thrice so doing, my advice is then to part with the Buzzard.

§. XI.

How to help a Hawk forward and coy through pride of grease.

THere is a scurvy quality in some Hawks proceeding from pride of grease, or being high kept, which is a disdainful Coyness. Such a Hawk therefore must not be rewarded although she kill: Yet give her leave to plume a little; and then let the Falconer take a Sheeps Heart cold, or the Leg of a Pullet, and whilst the Hawk is busie in pluming, let either of them be conveyed into the body of the Fowl, that it may savour thereof; and when the Hawk hath eaten the Brains, Heart, and Tongue of the Fowl, then take out your Inclosure, and call your Hawk with it to your Fist, and feed her therewith: After this give her some Feathers of the Neck of the Fowl to scour and make her cast.

§. XII.

What muſt be done when a Hawk will not hold in the Head.

IF you find your Hawk *rake* after *Checks*, and *lean out* ſo far that neither Whooping, Luring, nor caſting of the Hawks Glove is any way available, but ſhe rather gads out more and more, and at laſt flies away; I know not how to adviſe otherways, than to follow after with Whooping and Luring: If ſhe turn and come to the Lure, ſhew her all the kindneſs imaginable. This fault is frequently found in Soar-Hawks, or Hawks of the firſt Coat.

§. XIII.

How to keep a Hawk high-flying.

IF your Hawk be a ſtately high-flying Hawk, you ought not to ingage her in more Flights than one in a morning: For often flying brings her off from her ſtately pitch. If ſhe be well made for the River, fly her not above twice in a morning; yet feed her up though ſhe kill not.

When a high-flying Hawk, being whiſtled to, gathers upwards to a great Gate, you muſt continue her therein, never flying her but upon broad waters and open Rivers; and when ſhe is at the higheſt, take her down with your Lure; where when ſhe hath plumed and broken the Fowl a little, then feed her up; And by that means you ſhall maintain your Falcon high-flying, inwards, and very fond of the Lure.

Some will have this high-flying Falcon ſeldom to kill, and not to ſtoop: Yet if ſhe kill every day, although ſhe ſtoop from a high Gate, yet if ſhe be not rebuked or hurt therewith, ſhe will, I can aſſure you, become a higher Flier every day than other; but ſhe will grow leſs fond of the Lure. Wherefore your high-flying Hawks ſhould be made inwards, it being a commendable quality in them to *make in* and turn Head at the ſecond or third toſs of the Lure, and when ſhe poureth down upon it as if ſhe had killed.

And as the teaching of a Falcon, or any other Hawk, to come readily to and love the Lure, is an Art highly commendable, becauſe it is the effect of great labour and induſtry: So it is the cauſe of ſaving many a Hawk, which otherwiſe would be loſt irrecoverably.

Mark this by the way, that ſome naturally high-flying Hawks will be long before they be *made upwards*, ſtill *fiſhing* and playing the ſlugs: And when they ſhould get up to cover the Fowl, they will ſtoop before the Fowl be put out. And this may proceed from two cauſes. In the firſt place, ſhe may be too ſharp ſet; and in the next place, it may be ſhe is flown untimely, either too ſoon, or too late.

When you ſee a Hawk uſe thoſe evil *Tatches* without any viſible cauſe, caſt her out a dead Fowl for a dead Quarry, and hood her up inſtantly without Reward, to diſcourage her from practiſing the like another time: Half an hour afterwards call her to the Lure and feed her, and ſerve her after this manner as often as ſhe fiſheth in that faſhion.

Beſides, to correct this error, the Falconer ought to conſult the natures and diſpoſitions of his Hawks, and ſhould carefully obſerve which fly high when in good plight, and which beſt when they are kept low, which when ſharpeſt ſet, and which on the contrary in a mean between both, which early at Sun-riſing, which when the Sun is but two hours high, which ſooner, and which later in an evening.

For know that the natures of Hawks are different; ſo are the times to fly each one: For to fly a Hawk in her proper time, and to fly her out of it, is as diſagreeable as the flight of a Gerfalcon and a Buzzard. Therefore the Oſtrager muſt fly his Hawks according to their natures and diſpoſitions, keeping them always in good order.

Where by the by take notice, all Hawks, as well Soar-Hawks as Mew'd-Hawks and Haggards, ſhould be ſet out in the evening two or three hours, ſome more, ſome leſs, having reſpect to their nature as it is ſtronger or weaker; and in the morning alſo according as they caſt, hooding them firſt, and then ſetting them abroad a weathering, until you get on Horſe-back to proſecute your Recreation.

§. XIV.

To make a Falcon to the Heron.

THis Flight hath leſs of Art in it than pleaſure to the beholders; and to ſay the truth, the Flight is ſtately and moſt noble.

As it is leſs difficult to teach a Hawk to fly at Fowl than it is to come unto and love the Lure, the firſt being natural, and not the laſt; ſo there is leſs induſtry to be uſed in making a Hawk fly the Hern than Water-Fowl. To the firſt ſhe is inſtigated by a natural propenſity and inclination; to the latter ſhe is brought with Art, pains, and much diligence.

At the beginning of *March* Herns begin to make their Paſſage: If therefore you will adapt your Falcons for the Hern, you muſt not let them fly longer at the River, and withal you muſt pull them down to make them light: which is done by giving them Hearts and fleſh of Lambs and Calves, alſo Chickens: But give them no wild meats.

To the intent you may acquaint them one with the other, ſo that they may the better fly the Hern and help one another, you muſt call a *Caſt* of them to the Lure at once; but have a care they *crab* not together, for ſo they may endanger one another in their flight.

When your Hawk is ſcoured and clean and ſharp ſet, you muſt then get a live Hern, upon the upper part of whoſe long ſharp Bill you muſt place a joynt of a hollow Cane, which will prevent her from hurting the Hawk: That being done, tie the Hern in a Creance; then ſetting her on the ground, unhood your Hawk, who will fly the Hern as ſoon as ſhe ſees her. If ſhe ſeiſe her, make in apace to ſuccour her, and let her plume and take bloud of the Hern: Then take the Brains, the Marrow of the bones, and the Heart, and laying it on your Hawking-glove give it your Falcon. After this rip her Breaſt, and let your Hawk feed thereon till ſhe be well gorg'd: This being done, hood her up upon the Hern, permitting her to plume at her pleaſure; then take her on your Fiſt, and let her tire on the Foot or Pinion.

Becauſe Herns are not very plentiful, you may preſerve one for a Train three or four times, by arming Bill, Head, and Neck, and painting it of the ſame colour that the Hern is of: And when the Falcon ſeiſeth her, you muſt be very nimble to make in, and deceive by a live Pigeon clapt under the Wing of the Hern for the Falcon, which muſt be her Reward.

The Hawk having thus ſeveral times taken her Train without diſcovery of the deluſion, you may then let the Hern looſe in ſome fair Field without a Creance, or without arming her: When ſhe is up of a reaſonable height, you may caſt off your Falcon; who if ſhe *bind* with the Hern and bring her down, then make in apace to reſcue her, thruſting the Herns Bill into the ground, and breaking his Wings and Legs, that the Hawk may with more eaſe plume and foot him. Then reward her as before, with the Brains, Marrow of the bones, and Heart, making thereof an *Italian Sop*.

Thus much of a *Train-Hern*. Now to fly the wild Hern it is thus: If you find a wild Hern at *Siege*, win in as nigh to her as you can, and go with your Hawk under the wind; and having firſt looſed her Hood in a readineſs, as ſoon as the Hern leaveth the Siege, off with her Hood, and let her fly. If ſhe climb to the Hern and bring her down, run in (as I ſaid before) to reſcue her, thruſting her Bill into the ground, breaking her Wings and Legs, and rewarding her as aforeſaid on your Hawking-glove.

Now if your Falcon beat not down the Hern, or do give her over, then never fly your Falcon again at a Hern unleſs with a *Make-Hawk* well entred; for the coward by this means, ſeeing another fly at the Hern and *bind* with her, takes freſh courage. And if they kill the Hern flying both together, then muſt you reward them together while the Quarry is hot, making for them a *Soppa* as aforeſaid. This is the only way to make them both bold and perfect Herners.

§. XV.

Of mewing of Hawks.

FAlcons may be flown with till St. *Georges* day; then they muſt be ſet down: And be ſure to ſearch them for Lice, and if they have any pepper them well. Scowr them alſo before you caſt them into the Mew.

There are two ſorts of Mewing: 1. At the *ſtock* or *ſtone*. 2. *Looſe*, or at *large*.

1. For the *Stock*, the place ſhould be a ground-room, far from all noiſe or concourſe of people. Place therein (upon Treſſels two or three foot high) a Table, for length according to the number of your Falcons, and five or ſix foot broad, with little thin boards of four fingers high nailed along the ſides and ends. Fill the Table with great ſand, that hath ſmall pebble ſtones in it, and in the middle place ſome great free-ſtones, a cubit high, made taper-wiſe, but plain and ſmooth above. Then take a Cord of the bigneſs of a large Bow-ſtring, put it through a ring, and bind it about the ſtone, in ſuch ſort that the ring or ſwivel may go round the ſtone without any let: And thereunto tie the Leaſe of the Falcon. If you mew more Hawks than one, you muſt ſet your ſtones at that diſtance, that when they bate they may not reach one another, for crabbing. The great ſtones for their coolneſs the Hawks will delight to ſit on: The little gravel-ſtones are for them to ſwallow. The ſand is of uſe, that when they bate they mar not their feathers, and for the better cleanſing their mewts: The Cord and Ring, that when the Hawks bate this way or that way they may never tangle, the Ring ſtill following them. All day let your Falcons ſtand hooded upon the ſtone, only when they would feed you muſt take them on the Fiſt. At night off with their Hoods. To avoid and remedy all ill accidents and inconveniences it were well that the Falconer had his bed in the Mew.

2. If you would mew at large you can mew but one in a room, unleſs it be ſo big that you may divide it into ſeveral partitions. Twelve foot ſquare is ſcope enough for one Falcon, with two Windows a foot and an half broad apiece, each fitted with its ſhut, one toward the North, for cool air, the other toward the Eaſt, for the heat and comfort of the Sun. If your Hawk be a great bater your Mew were beſt be a ground-room, which if it be, you muſt cover the floor with groſs ſand four fingers thick, and thereupon ſet a ſtone as aforeſaid. Beſides, you muſt make her two handſom Pearches, near each Window one, that ſitting on the one ſhe may have the comfort of the Sun, on the other the benefit of the freſh air.

Every Week, or at leaſt every Fortnight, ſet her a Baſon of water, that your Hawk may bathe if ſhe deſire it, and if ſhe doth, then take it away the night following.

Your Mew muſt alſo have a Portal with a little hole below, to convey in the device whereon their meat is ſerved, called among Falconers the *Hack*. And that muſt be made on this faſhion. Take a piece of thick board, a foot and half long, and a foot broad or thereabout, under the which faſten two little Treſſels, three or four fingers high. Let them be faſt pinned or nailed to. Then bore two holes on each ſide thereof, and through each of theſe put a ſhort Cord of the bigneſs a Bow-ſtring, with the ends downward, and knots faſt knit on them under the button of the board, ſo ſtreight that you cannot raiſe the Cord above the board above a fingers breadth or thereabouts. And when you would give your Hawks meat, take a little ſtick ſomewhat longer than the *Hack*, and as big as your finger, but let it be of ſtrong wood, as Crab-tree, Holly, or ſuch like, and upon that ſtick bind your Hawks meat, and put the ends of the ſtick under the cords upon the *Hack*, and ſo convey it into the Mew to your *Hawks*, that the Hawk may not truſs or drag away her meat into the Mew, but, and as ſoon as ſhe hath fed and gorged her ſelf, take it away again. It is good to keep one ſet hour of feeding your Hawk, for ſo ſhe will mew ſooner and better.

This Author prefers mewing at the ſtock or grate before mewing at large. His reaſon is, becauſe in that kind of mewing we take our Hawks on the Fiſt every day, and ſo may ſee in what ſtate they be; and if they fall into any ſickneſs or infirmity, may give them proper medicines, which cannot be done when you mew at large. Beſides, if we happen upon Hawks that have preyed for themſelves, it will be needful to bear them often in the cool air in the morning till mid *July* or thereabout, yea, and to call them to the Lure, and to ride abroad with them ſometimes an hour or two.

Mr. *Latham*

Mr. *Latham* is of opinion, that it is better to mew at large, and diſapproves mewing at the ſtock. For (ſaith he) when ſhe is at large ſhe hath the exerciſe of her Wings in flying up and down, which muſt needs be good for her. Alſo ſhe may go to the water if ſhe be diſpoſed, and takes ſtones at her pleaſure. She may do all things at her own liking, whereas ſhe can do nothing at the ſtock when ſhe would: Neither can you give her that is fitting to her own content but by gueſs and imagination, wherein we are many times deceived. *And truly upon theſe conſiderations I am of his opinion, that it is better to mew at large, than at the ſtock or ſtone.*

CHAP. VI.

Of the Haggard Falcon.

§. I.

Something of the name and nature of the Haggard Falcon.

HE makes the *Haggard Falcon* to be the ſame with the *Peregrine*; and is of opinion, that the *Falcon-gentle* and *Haggard* are alſo of one and the ſame kind, the only difference being, that the former is the *Eyaſs* or *Ramage* Hawk, the latter the ſame taken wild after ſhe hath preyed for her ſelf, making the word *Haggard* to ſignifie as much as wild, oppoſite to gentle or tame. *The word* Haggard *is borrowed of the French*, Hagar, *and ſignifies* (as *Robert Stephen* interprets it) *an old Falcon of five or ſix years, having its pens worn ſhort, or otherwiſe harmed, and ſo taken for a price ſet on its head.* Aldrovandus *makes the word* Hagar *to be originally Dutch, and to ſignifie a bunch, whence the Germans call this Falcon* Ein Hager-falck, *or rather* Hoger-falck, *that is, a gibbous or bunch-backt Falcon. But this gibbous Falcon he makes to be a ſpecies diſtinct both from the Falcon-gentle and Peregrine. For my part, being not willing unneceſſarily to multiply ſpecies, I incline to Mr.* Lathams *opinion, that all theſe are names of one and the ſame kind of Hawk.*

The *Haggard-Falcon* is now-adays moſt eſteemed, not being (as ſome write) a choice and tender Hawk to endure wind and weather, but for hardineſs far before the *Falcon-gentle*. It is a bird of great ſpirit and mettle, like a Conquerour in a Country, keeping in aw and ſubjection moſt Fowl that flie, in ſo much that the young ones will venture upon *Brants* and *Wild-geeſe*, till being ſoundly bruſht and beaten by thoſe ſtrong birds, they learn their error, and deſiſt to meddle with ſuch unwieldy game.

She reſts no day, but toils continually, unleſs hindred by extremity of weather. Hence he infers that it is an error in Falconers after a day or two's flying to give their young Hawks a day or two's reſt, and concludes that whoſoever can fly his Hawk every day, ſhall have every day a good and perfect Hawk, but he that covets to fly upon reſt ſhall ſeldom have a good and ſtaid Hawk.

When ſhe hath ſlain and ſeiſed her prey, if it be a Dove, as ſoon as ſhe hath broken its neck ſhe preſently goes to the place we abhor our *Hawks* ſhould ſo much as touch, which is the Crop, and takes her pleaſure of what ſhe finds there, eſpecially muſtard or carlock ſeed, which he conceives ſhe uſes by way of Phyſic to preſerve her health.

§. II.

How to reclaim a Haggard Falcon.

HAving taken or purchaſed one of theſe birds, whether ſhe be full or empty, ſet her down as ſoon as you can, and let her reſt quietly the firſt night, either ſeeld, or in a rufter-hood. The next day taking her up gently, carry her continually on your Fiſt, uſing a feather to ſtroke her withal inſtead of your hand. When ſhe will endure to be toucht without ſtarting, pluck off her Hood, and quickly and gently put it on again, holding this courſe till ſhe begin to feed. Then profer her meat, but ſuffer her to take but little at a time, never hooding and unhooding her without a bit or two to quiet her, and win her love to the Hood and your ſelf. Uſe your voice

to

to her before you take off her Hood, and all the while she is feeding, and no longer, that as she reclaims she may learn to know, that when she hears your voice she shall be fed.

When you have brought her to feed boldly, then teach her to jump to your Fist in this manner. Set her on a Pearch breast-high [if it be lower, you must be on your knees; for being so high above her at first, till she be better acquainted, will be apt to fright her.] Then unstrike her Hood, and lure her, using your voice, with a bit or two of meat bestowed on her as she is unhooded, which will make her to love your voice, being careful that she take no sudden fright or dislike; for it is hard to work such impressions out again. Be sure to keep her stomach perfect, sharp, and well edged. For *venter magister artis*, it is that only that guides and rules her; That is the curb and bridle that holds her in subjection to the man, and it is the spur which pricks her forward to perform her duty.

By this time you may pull off her Hood, and let her sit bare-faced, keeping your self as yet close by her. And as you perceive any untoward humour in her, profer her a bit of meat with your hand, and use your voice to her, to draw her to you, till you have brought her boldly to attend, willingly to receive bits at your hand, and jump readily to your Fist: Then set her to the *Lure* garnisht with meat, to which when she will readily come in the *Creance:* stay not long in that kind, for she will soon begin to scorn it, and look another way: But let her see a live *Dove* at the Lure, and lure her to it: Which when she hath killed, and eaten up the head, take her up very gently with a bit of meat, and put on her Hood: Then lure her again to the dead pelt, and so use her two or three times, and no more; for she will quickly grow loth to be taken off, and her desire to keep the pelt will cause her to drag and carry it from you, than which there cannot be a worse quality in a *Hawk*.

Often luring at one time at her first entring is good to make her perfect quickly; but use it not longer than I have directed, especially to a Field-hawk: For the reason given.

Now it is full time to lure her loose to live Pigeons, which you must let her see at your Lure (to draw her you with love and courage) and also let her seize on them, and kill them at your foot, one after another, for six days together, being sure that he that holds her have skill to let her in with her head right towards you; and lure not far till her stomach be perfect, for otherwise she may spy something by the way which she hath more liking to, and so for that time be lost, which would be very hurtful to her though she should be recovered again.

Likewise forget not all this time of her making (while she is on the ground either pluming or feeding) to walk round about her, using your voice, and giving her many bits with your hand, till you have won her even to lean and bend her body to your hand, and to bring what she hath in her foot toward you. By this time it will not be amiss to spring her up some live *Doves*, as she comes unto you between the man and the Lure: And be sure they be given in a long Creance, that she may not kill them far from you, but that always she may truss them over your head, and fall near you: For otherwise it may strike a timorous conceit into her, making her sit and stare at you, or carry from you, and sometimes forsake what she hath got, and go her way, when she shall see you coming so far from her.

By this time you may be bold (at a convenient hour in the Evening, when she heareth your voice, and hath you in her sight) to hold in your Lure, and suffer her to fly about you, holding her with your voice and lure as near you as may be, to teach her to do her business, and work it on your head. Then cast her up a *Dove* with a loud voice, *&c.*

§. III.

How to remedy carrying in a Hawk.

THe reason of the Hawks carrying is not the lightness of the *Dove*, as some pretend, but the unskilfulness or negligence of the Keeper in not dealing gently and kindly with them in their reclaiming, or giving them little or no content in their luring, giving them for a reward only the pelt of a *Pigeon*, or some other dead thing, whereas their delight is in such as are living. For the prevention of this coyness or fugitive desire in your Hawk, at her first luring unto live *Doves*, you must restrain her, and draw her gently to you with your Lure or Creance, not suddenly or rashly, but

by

by degrees, and give her ſome bits of meat with your hand, being on your knees, to pleaſe and content her: And by this loving uſage you ſhall find your firſt *Dove* to be the worſt *Dove*, and the oftner you uſe her to them, the quicter ſhe will be: And ſhe did not drag ſo faſt from you at the firſt, but ſhe will ſoon come to bring it with as much ſpeed toward you, yea, meet you with it, and be willing to exchange it with you for a bit of meat at your hand.

§. IV.

Of giving ſtones and caſting.

WHen your *Hawk* is grown ſo gentle that ſhe will endure to ſit bare-fac'd in the evening or night amongſt company, then it is meet to give her ſtones. Every night, when ſhe hath put away her ſupper from above, before you go to bed, give her half a dozen ſmall ſtones. Give them above hand if you have the art, if not, then otherwiſe as you like beſt to caſt her. This do till you find her ſtomach good, and then you may profer her Caſting; but be ſure at your firſt giving it be with her liking: For otherwiſe I have ſeen divers *Hawks* beaten out of love with it, ſo that they would never take it willingly after. Add to the ink of a *Dove* as much clean-waſht flannel as will make her a reaſonable caſting, bearing in mind this old Proverb,

As waſh't meat and ſtones make a Hawk to fly,
So great caſtings and long faſting maketh her to die.

Theſe ſtones given at night you ſhall be ſure to have again in the morning: But given in the morning ſhe will either caſt them before they have done their work, or keep them all day and the next night. I have learnt by experience that ſtones given once by night do more good to a *Hawk* than twice by day, for ſpeedy inſeaming, or removing any glut or evil humour.

He makes account that ſtones ſerve to cleanſe the ſtomach, &c. *others are of opinion, that their uſe is to cool the body: I rather think, that they are of the ſame uſe to Hawks as to other birds*, viz. *to help grind their meat in their ſtomachs, though I confeſs there may be difference in this reſpect between Hawks and other birds; Hawks having rather a membranous than muſculous ſtomach or gizzard.*

§. V.

Of bathing your Hawk.

I My ſelf (ſaith my Author) have had very few *Haggards* that would ever bathe at all, ſo long as they continued ſound: But whenſoever I proved them bare-fac'd abroad, having fitted them with a reaſonable gorge, they did themſelves more harm by bating, than bathing would have done them good. Therefore if you find your Hawk not diſpoſed to bathing, you were better keep her on your Fiſt. But after two or three mews, in their declining age, through unnatural heats and ſurfets they will deſire bathing; and then you are not to neglect the occaſion; but when the weather will permit, ſhew her the water, and if ſhe do bathe, let her dry her ſelf abroad if it be fair, and the weather temperate; otherwiſe let her have the air of the fire with meaſure, and come no more abroad that day nor night, but ſet her upon a very warm Pearch, and from the air.

Note. This kind of Hawks though you labour them carefully the firſt year in their making, having brought them to be ſo familiar, that they will ſit abroad bare-fac'd hard by you when they are empty; yet if you ſhall abſent your ſelf for trial, you ſhall find when you come to them again they will be unquiet, and by bating and ſtriving do themſelves much harm, if they be full.

§. VI.

How to weather your Hawk.

EYas Hawks are much ſubject to heat, and therefore much addicted to weathering and bathing, and will almoſt never refuſe the water. You may boldly ſet abroad theſe Hawks at any time of day unhooded to take the air: For in regard of their fondneſs of, and familiarity with the man, they will take no occaſion to bate, thereby to hurt themſelves when they are full-gorged. But

But your *Haggard* Falcon, if you intend to weather her, you muſt do it in the morning, or elſe in the evening before ſhe be fed, alſo you muſt remain cloſe by her with meat clean and ready dreſt, to take her to your Fiſt withall. But I rather adviſe all Falconers to weather her in her Hood, which can do her no harm, but is rather a means to prevent her bating and ſtriving, by which her ſpirit and courage is taken away.

§. VII.

When it is convenient to ſet down, and leave flying of your Haggard.

ABout Lady-day, or ſomewhat before, is the time when theſe *Hawks* leave ours and other ſtrange Countries. They begin to draw together, and to diſpoſe themſelves thereunto a month before: The reaſon is, becauſe at that time of the year being moved by their luſt they repair to their breeding places. Therefore the old *Haggard* muſt needs then be ſet down, and fed up with hot and bloody meat: The intermewed *Haggard* is more able to reſiſt the courſe of nature, being not ſo violent in her, therefore you may fly her ſomewhat longer. The *Paſſenger-ſoar-Falcon* may be flown a month longer than any of the other. All of them will upon a ſmall occaſion be apt at that time to fly quite away; the inclination to cawking and procreating Young, being then ſo ſtrong in them, as to deface and obliterate, or at leaſt over-rule all artificial impreſſions of ſubjection and obedience.

§. VIII.

How to diet and prepare your Hawk for the Mew.

YOu muſt beware, when you purpoſe to feed up your *Hawk*, and put her in fleſh, that ſhe be not her own carver in her diet, and that you do not give her too great a gorge your ſelf: For if you do, it is ten to one but ſhe will over-feed, and ſurfeit of the ſame. The reaſon is becauſe ſhe wants exerciſe to digeſt it. Your beſt way therefore is, to keep your *Hawk* all the flying time as clean as you can; and at her ſetting down, keep your wonted courſe of feeding twice a day, and as near as you can with hot and bloudy meat, and no more in quantity than you find her well able to endue and put away: And if after a week or fortnights ſpace you find ſhe is mended, then you may be bold to begin to feed her once a day; and if it be poſſible at firſt let her have young *Pigeons*: But if you give her old birds, her firſt gorges muſt be leſs. Thus obſerving how ſhe mends by feeding once a day, and the eagerneſs of her ſtomach doth abate, you may order her accordingly, and you will find her ſhortly raiſed in her fleſh, and ſetled in her health, and fit for the Mew.

§. IX.

How to order your Hawk while ſhe remains in the Mew.

BEfore you put her in, be ſure ſhe be free from Mites and Lice: Which elſe will increaſe upon her there, and hinder her thriving.

Alſo take off her old Jeſſes, and put her on a pair of new and ſtrong ones, that may laſt till the time of her drawing, that you be not forced to hold her, and ſtrive with her too long, to heat her when ſhe is in the prime of her greaſe, which may do her much harm.

Keep your Mew aways ſweet, and clean with ſweeping.

Obſerve how your Hawk thrives by her caſtings and mutes, for ſo you may know how to diet her, continuing or altering her uſage accordingly.

You muſt not fail to let your Hawk have fair water always ſtanding by her, which muſt often be ſhifted.

Be ſure never to let her be without ſtones lying by her in gravel. *He adviſes alſo to gather up the ſtones ſhe caſts, and waſh them, and lay them for her to take again: But I ſuppoſe it would be better to give her freſh ſtones. For thoſe ſtones which ſhe hath taken and caſt up, are by mutual attrition in the ſtomach worn ſmooth, and ſo become leſs fit for the grinding of the meat, which is the reaſon why ſhe caſts them up. Wherefore (as we have noted before) Poultry before they ſwallow ſtones try them with their tongues whether they be rough or not.*

That

That meat which you do kill for your *Hawk* with a Piece be ſure to ſearch, and cut out the black and bruiſed fleſh, which proceeds of the Gunpowder. For there is no Gun but after one ſhot or two, (eſpecially in wet weather) ſends forth the ſhot as black as ink.

§. X.

How to take your Hawk from the Mew, inſeam her and make her ready to fly.

WHen you draw your *Hawk*, be careful not to ſtrive long with her, or heat her by ſtrugling and bating, but with all poſſible expedition ſet her down upon a Pearch, to reſt quietly, till her anger and turbulent humour be aſſwaged; and ſo let her ſit among company, and in their hearing, without any occaſion of diſturbance as near as you can. Then when you think it convenient, take her gently upon your Fiſt, and carry her up and down, ſtroaking her with a feather lightly and gently: And if you perceive her begin to ſtir or grow unquiet, ſet her down again, and thus uſe her until by degrees you have drawn her to ſome reaſonable familiarity, and that ſhe will begin to feed: Then give her more carriage, and uſe her to it more and more, and be ſure ſtill to keep her as quiet as may be, and by all means prevent bating. For there is more danger in ſome one Hawk that is to be reclaimed and inſeamed from the Mew, than in many other Hawks that have been newly taken in *England*, or from the Cage: The reaſon is, becauſe by reaſon of her eaſe and full feeding, and want of exerciſe in the Mew, no crammed Fowl will be more fat and full than ſhe, and ſo ſhe will be apt to receive much harm by bating or any ſudden heat: Whereas the wild *Hawk*, coming from the labour of her body, and exerciſe of her Wings: And the *Cage-Hawk* being toſſed and tumbled in her voyage, are ſeldom over-fat, and ſo in leſs danger of over-heating themſelves by bating or otherwiſe.

When you have brought her to eat, you muſt feed her twice a day, and ſo order and diet her continually, and it muſt be with new and good meat, which you muſt dreſs and waſh clean, wringing out the bloud with fair water, that ſo ſhe may ſooner come to a ſtomach: And for the quantity thereof let it be as much as the Wing of an old *Dove* at once, or as you ſhall find her, to put away the one meal, and make her ſelf fit and ready for the other. And for the firſt week or ten days after ſhe begins to feed, give her neither caſting nor ſtones, but the week after give her half a dozen ſtones every night, after ſhe hath put away her ſupper from forth her gorge, which you ſhall find ſhe will caſt you up again in the morning very early. The third week approaching you muſt give her every night a caſting, continuing your former manner of diet till your Hawk be flying, and all her flying time, only adding unto her meals ſomewhat in quantity, and forbearing to waſh altogether ſo hard, with reſpect to the mildneſs and hardneſs of the weather, *&c.*

Then prepare your ſelf to lure her, and let her exerciſe and have the benefit of her Wings.

If you give your Hawk a piece of Flannel or Cotton for caſting, he adviſeth that it be perfectly clean waſht; and that when you give the lighteſt and eaſieſt ſuppers, and ſome Plumage with it, but never upon a great gorge to the ſoundeſt *Hawk* that is. Alſo in a morning, when your *Hawk* makes a looſe and unwrapped caſting of Plumage, it is good to give a little knot with ſtones, to bring away looſe or ſtraggling feathers out of the Pannel. Many ſound Hawks will never brook a woollen caſting; and therefore my Author adviſes not to give your Hawk any ſuch, unleſs it be ſometimes for trial, but to give her only caſting of Plumage; and ſo you ſhall be ſure to preſerve and keep her ſafe, and in continual caſe to do her buſineſs.

Here my Author enters into a long diſcourſe about giving of ſtones, giving many reaſons why it is better to give them over night than in the morning; which, becauſe I am not of his opinion concerning the uſe of ſtones, and think that they may be indifferently given either at night or in the morning, when the Hawk is willing to take them, and that it matters not much how long ſhe keeps them, I ſhall omit. Only I ſhall ſet down ſome of his experimental obſervations. I have (ſaith he) ſeen a *Hawk* in the time of her flying, that hath taken a dozen or more ſtones of her ſelf in a morning, and hath kept half of them till next morning: The ſame *Hawk* when they were given her would not miſs at her feeding time, or at the ſight of meat to caſt half of them, and keep the reſt till the next day. *This he obſerved many Hawks to do.*

Another Hawk when I came into the Mew with her dinner did caſt up ſome few ſtones at the ſight of the meat, and when ſhe had eaten up the ſame (being a young *Pigeon*) ſhe preſently took above a dozen more, which ſhe kept till the next day. The like ſtory he relates of a *Tarcel gentle*, that after he had eaten a whole young Pigeon took preſently fifteen or ſixteen ſtones, and made it ſomething late the next day before he caſt them. This *Hawk* alſo at the ſight of his meat would not fail to caſt ſome of his ſtones.

No ſuch Phyſic (ſaith he) for a Hawk as to give her ſtones in due time. Here he takes a great deal of pains to prove that ſtones do not, according to the commonly received opinion, cool, but rather at preſent heat, their uſe being in his judgment to melt and waſte the glut and fatneſs, and to empty and evacuate thoſe gorgitive and ſtuffing humours, and ſo to inſeam and make her clean. *But this I omit, becauſe, as I ſaid before, I think the main uſe of the ſtones is to aſſiſt the ſtomach in comminution and grinding of the meat, thereby cauſing a more ſpeedy and perfect concoction, and ſo they conduce much to the preſervation and recovery of health; the ſtomachs not performing its office well being the foundation and original of moſt diſeaſes in Hawks and other animals, ſith an error in the firſt concoction is not amended in the ſubſequent.*

One remarkable obſervation he hath, which may ſeem to argue that ſtones have a purgative quality in them, which is this, That upon giving ſtones after forbearance a while, a Hawk will oftentimes at her beginning to caſt before the ſtones, in the midſt, and at the end of them, guſh out abundance of wateriſh, and yellowiſh greaſie ſlime and glut from forth her body: Which before, though ſhe had caſting daily, flowed not forth.

He adviſes at the beginning to make your Hawk perfectly clean, and ſo to keep her without pampering with great meals, and to have her empty, and with a good ſtomach when ſhe flies: For if ſhe be flown full, it may endanger her life; and beſides, ſhe will never fly with regard and attention to her Keeper, if her ſtomach be not perfect. For proof whereof, Take any young Hawk out of the Neſt (though newly diſcloſed) and breed her up as familiarly as you can deviſe: Yet when you ſhall come afterwards to fly her, ſhe muſt be altogether governed by her ſtomach. For let her fail of that never ſo little, and every puff of wind will blow her from you; nay, if there be no wind ſtirring, yet ſhe will wheel and ſink away from him and from his voice, that all the time before had lured and trained her up. Contrariwiſe, if it be his hap to find her again when ſhe is hungry, though ſhe would ſtarve before ſhe would prey for her ſelf, yet then will ſhe own him or any other man: Nay, ſhe will be ready to take his Cap from him before ſhe will either leave or loſe him.

Note well, that what ſhew of cleanneſs ſoever you find in your *Hawk* by her caſting, mutes, or otherwiſe, although you have taken never ſo much pains with her, by caſting, clean feed, and ſtones to purge and cleanſe her inwardly; yet will ſhe not be perfectly inſeamed till ſhe come to the exerciſe of her Wings, and labour of her body, after which ſhe will break greaſe, and by degrees inſeam throughly. And be ſure that her labour at firſt be not immoderate, for if it be, it will ingender grief. Alſo you muſt give her liberty by degrees to ſtir her Wings, and uſe her body, that there may be no heat exceſſively taken, until ſhe be throughly inſeamed, and then ſhe may be weary with flying, but ſhe will never take harm.

§. XI.

How to alter ſome ill qualities and conditions in a Falcon.

YOu ſhall ſometimes meet with a *Hawk*, that when you have well lured her, and given all the good content you can deviſe to her, yet upon the leaſt ſcope and liberty that ſhall be offered, ſhe will not tarry with you, but go her way. To reclaim her from ſo bad a condition you muſt take this courſe.

Abate her pride ſomewhat, yet with reaſon and reſpect to the weather. Then get you a *Make-hawk*, and taking a fit hour in the Evening, upon a convenient and eaſie place, and one couple of Fowl with your *Make-Hawk* flown and ſtooped once or twice, or as you ſee cauſe in managing your flight to your beſt advantage in landing, but when ſhe is coming for the laſt to kill it overland, be ſure to ſtand under the wind with your *Hawk*, and let her ſee the Fowl overthrown, and go in to the quarry; and if you perceive ſhe flieth in with a courage, and ſeiſeth with love and heat on the Fowl, make in apace and croſs the Wings of the Fowl, and make that ſafe,

ſuffering

ſuffering them a while to take their pleaſure together; which done with meat cleanly dreſt take up your old *Hawk*, but gently, leſt you fray your young one, and let her have the Quarry to her ſelf, and take her pleaſure thereon, with your own help on your knees to pleaſe her, and beware ſhe take no pill or pelf to glut her withal, and ſo reward her with *cleanly feed, giving her ſupper unto her as ſhe ſits upon the Fowl: Uſe her thus three or four times together, but let it be with good meat, clean waſhed and well dreſt from your hand.

* Be careful to feed clean, the benefit whereof few take notice of.

When you have uſed this courſe, at your next coming to the brook, let your *Make-Hawk* be flown, and when ſhe hath ſtooped and is wrought to her place again, at your next ſhewing, let your Hawk ſee the Fowl thrown in, and fly for the killing of it her ſelf with the other *Hawk*. Mark the manner of that flight; For if ſhe hotly and kindly entertains the advantage offered her, and with attentive eagerneſs follows the Fowl ſhe ſaw thrown in, flying round upon that and your ſelf, and with good hap enjoys the Fowl ſhe may make you a good *Hawk*: But if this courſe ſtay her not, there is no hope of her for the River.

But to enter a gently and lovingly diſpoſed *Hawk*, having a couple of Fowl that lie fit for your purpoſe, throw off your *Make-Hawk*, and when ſhe hath once ſtooped them upon her point or before at the ſetting in of the Fowl, let in your young *Hawk*: If ſhe fix her Eye on the other Hawk and work her, then need you not doubt, but ſuffer her to fly till ſhe hath almoſt reacht the other, but then be ſure to ſhew the Fowl; and then if ſhe ſtoop with the other Hawk, and work it again with her, then if it be poſſible let them kill it at the next down-come. For the only content you can give to theſe kind of *Hawks* is to let them have their deſires ſpeedily, before they be weary, while their courage is in them. For nothing puts a young Hawk ſooner out of love with the man, and drives her ſooner away, than ſuffering her to fly too long before ſhe be ſerved.

He lays great ſtreſs on this as an excellent rule, That in the time of her making no ſcope be given to the *Haggard*, neither to fly high nor wild, but that ſhe be held down and near to you.

Chap. VII.

Of the Ger-falcon.

THe *Ger-falcon*, *Turbervile* ſaith, is of a fierce and hardy nature, and therefore difficult to be reclaimed, but being once won, proves an excellent Hawk. *Latham* ſaith, that *Ger-falcons* are for the moſt part very kind and loving Hawks, and will ſuddenly be reclaimed and made to love the man. Their Tercels or Males are called *Jerkins*. Theſe Hawks do not fly the River, but always from the Fiſt they fly Herons, Shovelers, forked-tail'd Kites, *&c.* In going up to their gate they hold not that courſe which other Falcons do. For they climb upon the Train when they find any Fowl, and as ſoon as they have reacht her, they pluck her down, if not at the firſt, yet at the ſecond or third encounter. The Haggard of this kind is moſt commendable, and eaſieſt to be be made for any pleaſure. To reclaim and make her fit to be ſet to the Lure, you muſt take the ſame courſe as is preſcribed for the Haggard ſleight Falcon.

When ſhe ſhall come to be lured looſe, then would ſhe firſt of all be taught to come unto the Pelts of Hens, Herons, or any ſuch like thing, ſo it be dead; for thereby ſhe will not be over-hot or eager of it, neither muſt you ſuffer her to touch any part of the fleſh, to draw her love from your voice and your hand, but to ſpend only her time on it in pluming. All this time you muſt be cloſe by her, and on your knees uſing your voice to her, with her dinner or ſupper clean dreſt and waſht, giving ſtill unto her ſome part thereof in bits with your hand, that from thence only ſhe may be ſatisfied, and her whole delight be in that, accounting the other in her foot but as a ſtand or means to ſtay her by you, while ſhe receives her full reward at your hands. And in uſing this courſe often to her, ſhe being a Hawk of never ſuch ſtrength and ableneſs to carry, it will in the end ſo reclaim and win her to your ſelf, that ſhe will quite forget the ſame: And after if you liſt to train her with Doves, ſhe will not carry one feather from you, but draw towards you, and ever deſire to have her content at your hand.

It is a ſpecial point in a Falconer to take good time at the firſt making of his Hawk, and not poſt her to another thing till ſhe be perfect in one.

Before you ſpring her up any Doves, it is meet you let her kill half a dozen at your Lure, cloſe by your foot, having a pair of ſhort Creances at your Lure: For it may be at the firſt ſeeing of the Dove to ſtir and flutter, ſhe may come royſtingly to twitch or take it away, ſo far as ſhe is able: Which if ſhe ſhould do, you have a remedy by reſtraining her gently with your Creance, ſo that there ſhall be no offence committed: Then ought you to get gently into her, and as beforeſaid with bits of meat cleanly dreſt and beſtowed on her you ſhall pleaſe her at the full, and take her to the Fiſt again.

The Heron and the ſtately flight and mountee thereto is the thing for which theſe Hawks are moſt deſired and accounted of: For which purpoſe your intermew'd Hawks are fitteſt and moſt eſteemed. *N B.* Remember to be favourable to them the firſt year of their making, [and not to put them to any toil, but to train them gently with ſuch Herons as you are ſure cannot go from them, nor cauſe them to labour much before they maſter them,] and ever after at the drawing: And take good time with them in the inſeaming: For theſe times as yet have ever ſhortned their lives and deſtroyed them. No man (he ſaith) can make one of theſe *Hawks* from the Mew ready to be lured under ſix weeks at the leaſt, but he ſhall hazard her life if ſhe take any heat at all. They are prepared for the Mew, and mew'd in like manner as the ſleight Falcon. Let her have in the Mew Sods or Turfs to ſtand on, and thoſe often ſhifted, that they grow not too hard and dry: For ſhe is a very heavy Hawk, and very ſubject to infirmity on the bottom of her feet. He diſallows mewing of them at the ſtock, and approves of mewing them looſe. She ought alſo to have very often given to her Plumage, bones, and ſtones, to purge and cleanſe her.

Turbervile ſaith, they covet to keep their caſtings long through ſloth; and therefore adviſes not to give them caſting of Cotton, but of Tow, Hazel or hard things.

When ſhe is mew'd, *Latham* ſaith, that you ought at the leaſt three weeks before you take her to your Fiſt, to inſeam her with waſht meat and ſtones: For then is the danger of ſhortning her life, whereas by good ordering they are as hardy as the Lanner, and will laſt as long: He ſaith, he hath known one hold out and continue her goodneſs twenty years.

Chap. VIII.

Of the Lanner.

The *Lanner* is not over-dainty of her feeding, but can better brook groſs or coarſe diet than any other *Falcon.*

Lanners of all Hawks are fitteſt for young Falconers, becauſe they will hardly take ſurfeit, and ſeldom be over-flown, or melt their greaſe.

Mew'd *Lanners* [and *Sacres*] are hardly known from the Soar-hawks, becauſe they do not change their plume.

Turbervile ſaith, that with this Hawk you may fly the River. *Latham* ſaith, he hath not known any Lanner made for the River, yet preſcribes a way to make them.

They are very ſlothful and hard-metled, ſo that unleſs you keep a hard hand over them they will do little good.

You ſhall not lightly ſee a *Lanner* lie upon the Wing, after ſhe hath flown to mark, but after one ſtooping ſhe maketh a point, and then waits for the Fowl after the manner of the *Goſhawk*, ſhe is ſo ſlothful and dull; and therefore doth commonly uſe upon the queſting or call of the Spaniels to attend very diligently, and ſo to prey at her pleaſure. As the *Eyaſs* of this kind exceeds other Hawks in gentleneſs and love to her Keeper, ſo the *Haggard* paſſes all others in wildneſs, and is very hard to be reclaimed. She muſt be managed and ordered in all reſpects like the *Haggard* ſleight *Falcon.*

The *Ramage Lanner* is alſo a coy Hawk, and muſt be ordered as the Haggard Falcon; only her diet muſt be with hard-waſhed meat and ſtones more or leſs as you ſhall find her natural inclination.

Above

Above all you must use your utmost skill and pains to keep her from dragging or carrying any thing from you; which ill quality no Hawk is more subject to than she. To prevent which, first you must beware, that if she but once only knoweth the Lure, that you lure her no more than once at one time, though you take the more time to make her: Else you hazard the spoiling of her. For as soon as she knows the Lure she will settle her love on it, and desire to hold it, and be loth to be taken up from it to be lured again; and out of fear lest you should deprive her of it, will quickly fly you, and drag and carry it from you. Secondly, During the time of her luring and training let her have her reward at your hand for the most part in bits, reserving some small quantity to take her to your Fist withal. Thirdly, All this while have your Spaniels by you as she is on the ground: For these be Hawks of all other most coy and fearful to have any Dogs come near them: And therefore at her first entring you ought to have but few Dogs, and they such as be both cool and gentle, till she be well entred and acquainted. For if she should chance to take any sudden fright with a Dog, she would never abide them again: And so she will be for ever marred; for being able to carry away her prey, whenever she shall have a Partridge in her foot, she will suffer neither Man nor Dog to come near her, but carry it away, and prey upon it. Which if she do but once, it is as good as an hundred times, for she will never be reclaimed from it.

Of the Merlin.

She is a couragious and hardy Hawk, flying with greater fierceness and more hotly than any other bird of prey; so that she will venture to fly the Partridge, Heathpowt and other birds bigger than her self, and pursue them eagerly even into Villages and Towns.

They are such busie and unruly things, as oftentimes they eat * off their own Feet and Talons very unnaturally, so as they die of; which is the true cause why you shall seldom or never see an entermew'd *Merlin*: For that in the Mew they so spoil themselves.

* This my Author upon his own experience denies.

A *Merlin* may be made both to the Fist and to the Lure. When you have made her to the Lure in manner † before described, make her a train with a *Partridge*, or other live bird: If she foot and kill it, reward her, suffering her to take her pleasure on it. This done, fly her at the wild *Partridge*, if she take it at the first flight, or if she take it at the second flight, being retrived by the Spaniels, feed her upon it with a reasonable Gorge, chearing her with your voice, that so she may know it. If she prove not hardy at the first train, prove her with another before you fly her at wild Game. If at the second train she prove not hard, it is a sign she is nothing worth.

† For the Falcon.

It is very good sport to fly with a cast of *Merlins* at the *Lark* or *Linnet*; for besides that they love to fly in company, it is pleasant to see the one climbing to the mountee above the Lark, and the other lying low for her best advantage, the one striking the bird at the stooping, the other at her down-come. When you have found the birds go as near as you can into the wind to the bird; and as soon as the bird riseth from the ground unhood your cast of *Merlins*, and cast them to fly until they have beaten down the Lark or Linnet, and let them feed on her for their labour indifferently. He advises not to fly your *Merlin* at Cut-Larks, because they not mounting upward, but flying streight forward, they afford you but little sport, and besides endanger the loss of your Hawk.

Chap. IX.

Of the reclaiming and manning of ſhort-winged Hawks, and firſt of the Goſhawk.

§. I.

Of the Goſhawk, in general.

HAwks of all Creatures are moſt fearful of man, and the *Goſhawk* as coy, nice, and hard to be dealt with as any. She may be won by gentle uſage; and will as ſoon perceive and unkindly reſent any rough or harſh behaviour.

The *Oſtringer* muſt bring his Hawk to love and be familiar with the Spaniel.

Some *Goſhawks* are ſwift of flight, which in purſuing and catching their prey truſt to the ſwiftneſs of their Wings, others fly ſlow, and win what they get by policy: None of them but by induſtry may be trained up to, and made good for ſomewhat.

The *Goſhawk* is of a hotter temper and ſtronger conſtitution than any other Hawk; the firſt appears, in that her mutings are always liquid; the ſecond, in that ſhe is ſeldom troubled with thoſe diſeaſes, which be incident to moſt other Hawks, *viz.* to be liver-ſhotten, and to the Filanders. And though the *Lanner* be accounted the hardieſt Hawk in uſe among us, and longeſt-lived; yet the reaſon is not the firmneſs of her conſtitution above the *Goſhawks*, but becauſe the *Goſhawk* in time of her pride and fulneſs is a froward and unruly bird, and when ſhe is inſeamed very prone to extreme bating (wherefore ſhe requires more labour and attendance of her Keeper than any other Hawk) and by theſe extremes ſhe often ſhortens her days: Whereas the *Lanner* is a meek and gentle Creature, and will ſeldom bate or be unruly in the time of her inſeaming; which is the reaſon ſhe laſts longer.

§. II.

How to order a Goſhawk taken from the Mew.

BEcauſe it is likely that ſhe will be fat and full in the higheſt degree with reſt and frank feeding in the Mew, therefore it is neceſſary that ſhe be fed in the Mew twice every day with clean dreſt and waſht meat for ſixteen or twenty days before the intended time of her drawing, that ſhe may be well inſeamed of her body, and have ſcoured forth of her pannel and guts all glut and fatneſs, and ſo ſhe will be in no danger through her bating, ſtrugling, or other forcible motion of her body at the time of her drawing. Then draw her, having a rufter-hood in readineſs very fit for her, from which time ſhe muſt be continually fed on the Fiſt, and have caſting every night. This courſe with continual carriage on horſe-back and on foot muſt be taken with her in her rufter-hood ſome eight or ten days longer; and then take it off, when you ſhall find her to be well reclaimed and inſeamed, and free from all danger, and ready to be called; and with diligence and pains ſhe will be next week as ready to fly: And after two or three flights at her firſt entring may be put to hard flying, and ſhe will receive no harm thereby, *&c.*

§. III.

How to reclaim and order a Goſhawk taken from the Cage.

FEw of theſe are ſo fat or full-bodied as to take harm by any reaſonable bating.

Give your Hawk ſweet meat, clean dreſt, and reaſonably waſht, and moderate gorges of the ſame: By this diet you muſt bring her to a good ſtomach before you profer her caſting, and then ſhe will not be nice or curious in taking it. Let it be no more than ſhe may well and eaſily ſwallow, and when ſhe hath done ſo, preſently put on her Hood, then ſuddenly give her one bit or two of meat to pleaſe her withal; then make a little ſtay, until you perceive aſſuredly that ſhe hath put it down into her Pannel, which being perceived put on her Hood again, and give her a reaſonable ſupper. By this courſe taken, the Hawk will ſoon come to be in love with her caſting, haſting to take it without niceneſs in expectation of her ſupper. For

For my own part (saith my Author) when my Hawk is well inseamed, and in flying I give her Plumage every night when I feed her up: When she rests I feed her very clean, without any casting at all, and so set her up to rest, and in the morning very early give a woollen casting, fashioned and soak'd all night in fair water, which she will willingly take being used to it: And in an hour or thereabouts her appetite to her breakfast will provoke her to cast it up again. *So he disapproves the giving a woollen casting at night:* But if any will needs give it, then he advises it be with small store of meat, and some Plumage with it. Also he disapproves of stones given with Celandine, and castings of hazel, unless much undersized, because of their swelling. When ever he found his Hawk to distaste unnatural Cotton castings, he suddenly left them and betook himself to Jukes, and sometimes to *Hares* or *Conies* feet, the bones and wooll well broken together, which he never found to disagree with her, but always wrought to good purpose.

He condemns the giving of bloudy meat, because the Hawk will not therewith be reclaimed. And therefore, saith he, the unreclaimed and unclean *Hawk* of this or any other kind ought to be reclaimed, inseamed, and made to fly with good meat, clean dresst and washed, and for these Hawks the water dried out again with a fair cloth. And this course to be held all flying time, unless there be just cause for the contrary. As to a sick and crasie Hawk, with due respect unto the eyes, or to a hot and eager mettled Hawk, as also to the soundest and hardest Hawk that is, when she shall have continual hard flying, and kills oft, you may with discretion in the quantity give bloudy rewards, and three or four times in the week suppers of the same, as Pheasants and Partridges heads and necks: Always being mindful in time of rest to feed with meat clean dresst, hard washed and dried again, to hold the stomach right and sharp withal, else no subjection to be looked for abroad when she is at liberty.

All the flying time, but especially when you fly to the covert, (it being then usually cold weather) suffer not your *Gosshawk* to be too long fasting, for it breedeth much wind in her, and is a special means, with cold adjoyned, to take down her flesh, which at that time will not very easily be put on again. Therefore for every Hawking day provide a reasonable meal of clean-dresst meat, the which you must keep in a fair cloth: Then in the morning, suddenly after she hath cast, give one bit when her Hood is on. Also if you chance to spend an hour more before you find your flight, give her another bit, and so after this manner, proportioning her meat to the time of her being abroad, that she never be over-empty, and yet have a perfect appetite and good courage to fly.

When ever you feed with cold meat you need not wash it: But I would advise you to use it as seldom as you may, for a continuance of it breeds poverty and many diseases.

Whenever you have set down your Hawk off your Fist hooded or unhooded, come not to take her up again without using your voice in whistling or chirping to her, also without some bit of meat, or a stump to please her withal; for so you shall work in her an everlasting love and desire of your coming and company.

Also when you set her on your Pearch hooded, let her not know where it standeth, if she do, she will have a longing to be there, and will not rest quietly on the Fist after she is once within doors: Whereas till she be throughly reclaimed and flying, and till she hath been well flown, your Fist for the most part must be her Pearch, and she must know no other. For these be *Hawks* that in their first making with a little rest will quickly forget what they were formerly taught, and return to their wildness again.

When she is untowardly or frowardly disposed, endure her unquietness with patience and gentleness, and evermore have some stump in a readiness to appease her anger.

In the time of her inseaming and reclaiming give her not her dinner at any time all at once, for thereby you shall prolong the time of her making: For her stomach once full she will mind you no more, therefore divide it in the forepart of the day, and let her jump often to the Fist for it.

When she is first to be entred put her upon the highest pin of hunger, and then she will shew all the mettle that is in her, and when she hath once taken her prey rather die than forsake it: Whereas if her stomach be imperfect, the least occasion that may be, as the approach of her Keeper, or any other man, the appearance of either Horse or Dog, *&c.* will be sufficient to cause her to forsake it and go her way.

§. IV.

How to make a Goſhawk like the Hood, that hath with ill uſage been beaten out of love with it.

CArry a Hood of ſome notable colour on your finger, that may well be ſeen and viewed by her as it hangeth there, and ſo as ſhe may feed cloſe by it for a week together, but beware you do not as yet ſhew it her with your other hand. But then take it gently in your other hand, and move and ſtir it about her meat, that ſhe may touch it as ſhe eats. This do another week, ſtill letting the Hood reſt on your little in her ſight between feeding times. Uſe this courſe till without fear ſhe will but thus endure it. Then you muſt hold your meat in the hand ſhe ſits on, and with the other hand hold the Hood by the Taſſel upon the meat, moving and ſtirring it as though you would keep her from feeding; but it muſt be done ſoftly and gently: When you ſhall perceive that ſhe will ſtrive to feed beſide it, you ſhall hold it by the Taſſel juſt over the meat, ſo that ſhe muſt needs eat clean through it. Do thus ſo long as till you ſee that ſhe will feed and ſearch boldly through the hood for her meat, and eat it without any ſnatching or fear. Then as ſhe is feeding, and doth thruſt through the Hood for her meat, do you bear the Hood a little againſt her, and ſhe will hood and unhood her ſelf as often as you would have her. When ſhe hath with your aſſiſtance put on her Hood, let her eat freely until ſhe hath done, and take it off no more till feeding time again. In this manner, within a month and leſs ſhe will be brought to hood her ſelf with the leaſt ſtump you carry about you, as often as you ſhall have occaſion.

Practiſe not this till ſhe be come to a perfect ſtomach, for if you do, you mar your Hawk for ever.

§. V.

To reclaim a Goſhawk from the Cage.

GIve her a fortnights carriage or more in her ruſter-hood, always ſtroaking her with your hand or a feather. Be careful to feed clean with waſhed meat, for ſo ſhe will be the ſooner brought to a good ſtomach, and be gentle and well pleaſed to be handled. This obtained (which you ſhall perceive by her liſtening to your voice, or eager feeding) ſome evening waſh and pepper her well. Then take off her ruſter-hood, having another ready to put on: As ſhe grows to be a little dry put on her Hood, and give her a bit of good meat upon it to pleaſe and refreſh her. Hold this courſe to hood gently, and unhood now and then, not forgetting her reward ever after it is on, untill ſhe be throughly dried, and afterwards the moſt part of the night: Then you may ſet her down bare-faced to have two or three hours reſt; and be ſure it be in a ſpecial warm place, and on a dry and warm Pearch on high, for theſe kind of Hawks are very ſubject to take cold, and apt to have the cramp on ſuch occaſions.

When ſhe and your ſelf have taken a little reſt, go ſoftly to her with ſhew of meat in your hand, withal chirping or whiſtling to her, and take her gently on your Fiſt, and dividing her meat into ſeveral parts beſtow it on her for the moſt part when her Hood is put on: This will make her love and look for the Hood expecting to be fed; if ſhe be nice in ſuffering your hand or the Hood to come near her head, you muſt ſeldom do it in the day time, but at her feeding, and late at night, when ſhe will be more willing to take it.

Next teach her to jump and come to the Fiſt. For though other Hawks are uſed to come to the Lure thrown ſome diſtance from the man; yet ſhe being a Hawk of the Fiſt, muſt be taught and uſed to come boldly to the hand, and without fear to ſeize and ſit upon it during your pleaſure, which ſhe will never be brought to do with all the Art in the world, if her ſtomach be any way imperfect.

This obtained, let her be called a little further off, *viz.* twenty or forty yards at moſt: By dividing one meal (as I ſaid) let her come oftentimes in a day if it be poſſible: Which will quickly make her perfect, that ſhe will never check at the Fiſt, but will come and draw at any time of the day: Whereas uſing her to one hour for her meal, cauſes her not to come or draw till that time; which is an ill quality.

[He

[He wiſhes not to be too haſty in flying Goſhawks before they be throughly reclaimed and taught, but to take ſufficient time to teach them. And he affirmeth, that if a Hawk be too much impoveriſhed and her fleſh taken off, ſhe will loſe her ſpirit and mettle, how good ſoever ſhe was, and will neither fly well, nor ever laſt healthful.]

Now it will be good time to call her looſe. In doing which ſhun all places near Houſes and Towns, to avoid the inconveniences of her being tempted aſide by Poultry, Dove-houſes, and ſuch like places, which all theſe Hawks are ſubject to; and having once caught ſuch an ill property they will ſeldom or never be reclaimed from it, how far ſoever from any Town they ſhall be flown: Walk therefore with her to the young Woods betimes in the afternoon, having before prepared her ſtomach, and there put her up into a tree, walking along from her, uſing your voice ſoftly as though you had Spaniels with you, but chiefly to her in chirping and whiſtling: By which means no doubt ſhe will draw and follow after you with little noiſe, Then ſuffer her not too long, but call her to your fiſt again, and reward her with ſome bit of meat, or Leg of a Pigeon, *&c.* to pleaſe her. Then put her up again, and by your ſofteſt voice or whiſtle draw her after you again. To uſe a loud voice would be a means to make her ſit and loiter behind you ſo far as ſhe can hear you, which is an ill quality: And beſides, to make your Spaniels range far off, and ſpring out of the way far from you, which muſt needs be much diſpleaſing both to Man and Hawk.

To make your Hawk familiar with your Dogs, firſt feed her amongſt them all very oft upon your Fiſt: Then throw oftentimes from you among the thickeſt of them the dead Pelt of a Pullet or Hen in a ſhort Cruce, that ſhe may fly from your Fiſt, and eagerly chop among them, and ſeiſe upon the ſame, ſuffering her to plume a while: then take her to your Fiſt with a ſtump. This courſe you muſt uſe every day often, till you find that ſhe will venture boldly among them all. She will ſoon perceive and underſtand by the Dogs giving way with fear unto her, that ſhe hath even got the upper hand of them, and ſo will never fear them in the field or covert, or be beaten off her Game by them, as otherwiſe ſhe would.

§. VI.

To enter a Goſhawk to fly to the field.

PRovide three or four hand-Partridges, with a companion, and one couple of ſtaunch Spaniels; then go into the field, having prepared your Hawk with appetite and courage to fly. Then one of you ſhall go near hand from the other unto ſome buſhes or other covert, whereas he ſhall ſpend his voice to the Dogs after the accuſtomed manner, and uſing ſome blows with his Pole, he ſhall ſecretly let the Partridge ſpring as from forth the ſame, with ſuch jndgment in the delivery as that the Hawk may ſee it, crying with a loud voice, *Howe*, *Howe*, *Howe*, that ſhe may learn to know the word of warning, when ſhe ſhould at any other time look about her, and be watchful at an inſtant to take her advantage. This done, and your Hawk flying after it with ſpirit, and taking it, be ſure with all expedition to get in to her, that no Dog or other thing may fright her, or deprive her of it: But ſuffer her to plume and take her pleaſure on it, and further to take bloud thereon, ſtill having the Spaniels in ſight cloſe by her. Then you muſt teach her to take the head in her foot, and eat it on the ground: And when ſhe hath ſo done, and looketh about her, having your Spaniels by you, through the Partridges pelt (as before in her firſt teaching) once among the Dogs, and let her take it being in her Leaſh, that ſhe may not carry it from you: And whilſt ſhe ſits there and plumes make her ſupper ready; take her gently to your Fiſt, and there content her. By thus ordering and uſing of her, you will without doubt very ſuddenly have an excellent Hawk: And by all means fly her to the field all the firſt year, and let her not ſee the *Pheaſant* at all, for that will draw her love from the *Partridge*, and make her give them over; being a ſhorter flight.

When you have thus entred and blouded her, and alſo killed three or four *Partridges* more from the mark at the retrive, and perceive that ſhe knows a *Partridge* by ſight, and the accuſtomed terms, and will go readily from the Fiſt thereto; be ſure, that all the fore-part of the year you let her go no more one flight in ten, near to the riſing of her Game, for that will make her ſlothful; the *Partridge* being then weak,

and ſhe taking them eaſily at the ſowce in a ſhort ſpace, ſhe will afterward remember it, and look for the ſame order, and without it will not fly towards the latter end of the year, but if the *Partridge* be ſprung far from her, will make as if ſhe ſaw it not, and fly to the next tree ſhe meets with.

Some *Hawks* have an ill property, that when they have flown a *Partridge* hard to any covert, and take it not at the firſt flight, there will they ſit ſtill on the ground, and not get up to any ſtand for their better advantage. To amend which fault, when your Hawk hath flown a *Partridge*, make after her with all the ſpeed you can, taking your Dogs with you by your command, and when you have found her, be ſure to take her up, but not on your Fiſt by any means, if there be either hedge or tree near hand, but take her by the body or ſhoulders ſuddenly with both your hands, and throw her upon either hedg, buſh, or tree, and then beat for the Partridge, when as it is impoſſible but ſhe muſt ſee it; if it doth ſpring then, and ſhe fly after and kill it, well. This courſe being well followed will certainly reclaim her from that fault, and teach her to riſe her ſelf; for ſhe will quickly underſtand that elſe ſhe ſhall be caught and toſt up, and alſo that thereby ſhe ſhall enjoy ſome pleaſure and content. This is a common and laſting fault of the *Eyas* Hawk or brancher, ſeldom of the *Haggard*, and therefore you need not fear frighting or angring her by ſo doing.

It is in my opinion the moſt commendable and ſafe way after one of theſe Hawks is firſt entred, and only knows a *Partridge*, then immediately to teach her and uſe her to fly from forth the Hood. Often bating at Partridges ſprung to other Hawks diſcomforts and diſcourages her: Beſides, ſhe will, if carried bare-fac'd, be very ſtirring and unquiet on the Fiſt, not a Dog can ſtir, or bird riſe, but ſhe will offer to be gone. Let her alſo ſit and weather in the Hood, and never take it off but when ſhe ſhall either fly, feed, bathe, or is to take her reſt at night.

§. VII.

How to enter your Goſhawk to the Covert.

NO man is fit to order and manage a *Goſhawk* to the covert but he that hath a ſtrong and able body, and a good ſpirit and courage to follow her, for in this ſport, and with this Hawk he muſt altogether truſt to his feet.

Here becauſe the man cannot follow by view to ſuccour the Hawk, you ought to be chary of what place you enter her in, eſpecially that ſhe may be there well guarded and kept from taking any miſlike or offence at the Dogs, the which if ſhe ſhould do at the beginning ſhe will never indure them again: For it is the ſudden ruſhing of the Spaniels upon her, (their ſight by means of the covert being obſcured) that breeds this offence. The beſt time to enter her is early before the leaf do ſtir; for then the Pheaſant flies not far. Alſo afterwards the nature of them is to leave the young ſhoots and ſmall groves, and draw to the high and thickeſt woods.

Having made good choice of your place, and let your Hawk go unto her flight, you muſt be ſure to command your Dogs to you till you have found her; then if ſhe have killed, you have your deſire; if not, and that you chance to find her on the ground, (as it may well be you may, for many of them at their firſt entring will be very hot and eager of that ſport, and oftentimes ſeeking for it on the ground) if there be any tree near hand, that ſhe may well ſee from it, put her up into the ſame, otherwiſe keep her on your Fiſt and beat for it again. Then if ſhe do fly and kill it, you muſt be ſure to make ſtay of the Dogs till you have found her: Which done you ſhall get gently in to her, and if you diſlike the place for the uneaſineſs or thickneſs, draw her gently to another more open, where ſhe may with more eaſe and quiet enjoy her prey; and there ſuffer her to plume and take her pleaſure on it a while. Then call your Dogs to you, and walk and ſtir gently about her, with ſome moderate ruſling and buſtling in the buſhes, the better to acquaint her with the ſame noiſe. Then when you ſee it convenient ſtoop to it on your knees, and rending the Chaps give her bloud in the throat, where it will iſſue abundantly, to her great content. Then covering the body with your hat, pluck of the head, and give it her in her foot, to eat on the ground: And having your Spaniels cloſe by you, when ſhe hath done, and beginneth to look about her, throw the Pheaſant as it were in their very mouths, that ſhe may, together with ſome words of rebuke from your ſelf, make them give way with fear unto her, yet drawing them into her ſight again, ſo long to remain as ſhe is on the ground, and till you make ready her ſupper. And when you ſee ſhe

hath

hath taken her ſufficient pleaſure, exchange that artificially with her, and let her eat it on the ground where the quarry lay, only reſerving ſome little thing to take her to your Fiſt withal: And then put on her Hood, not forgetting to beſtow ſome reward on her afterward, which ſhe will be well pleaſed withal.

To make your *Goſhawk* with boldneſs take a *Pheaſant* from the Pearch, before you offer to fly her thereto, provide a young Capon or brown Pullet, and take it with you to the Wood, and when you call her to her ſupper, as ſhe is drawing and attending after you, having a Pole fit for the purpoſe provided, call your Spaniels about you, to make them bay, and ſuddenly breaking the neck of the Poultry, lift it up on a bough, ſo high as the Hawk may well have ſight of it, there ſtirring it, and withal crying, *Abay*, *abay* to her: At which noiſe, and ſeeing it flutter, no doubt ſhe will come in, and pull it down: Which if ſhe ſhall do, be ſure that the Dogs may with ſome rebuke from your ſelf, make way for her deſcending, and then ſuffer her to plume and take her pleaſure thereon, *&c.* as was before directed: And in uſing this courſe but a while, ſhe will become ſo bold and venturous, as that the *Pheaſant* ſhall no ſooner go to Pearch, but ſhe will have him by the ears, and pull him down.

By threatning words and blows with reaſon, you may bring your Spaniels into ſuch ſubjection, as to truſt them alone with your Hawk in your abſence: taking care there be no ſtrange Dogs among them: For one ſtrange unruly Dog is ſufficient to mar all the reſt, and the *Hawk* too.

Be careful to enter your Goſhawk firſt to the *Cock-Pheaſant*, for the verieſt daſtard that is will kill the Hen; which if you enter her firſt to, it may be afterward with all your Art and Skill you ſhall never force her to fly at the Cock. If you find that at firſt ſhe is afraid to buckle with him, then with two or three days reſt prepare her ſtomach ſoundly, and put her to him again.

§. VIII.

Of the Haggard-Goſhawk.

THis being the wildeſt Hawk of all, and ſo requiring more labour, care, and attendance in her reclaiming and perfect making than any other, he adviſes not to deal haſtily with her by peppering, watching, and the like: For many Hawks have ſo been ſpoil'd and loſt; their bodies being unfit for ſuch ſudden changes.

It is the nature of theſe *Hawks* when wild to feed on their prey in covert places, where they may not be deſcried by ſuch other birds as love them not: Wherefore alſo being reclaimed, whenſoever they take it in any Plain or Champain place, they will be apt to carry it to the next harbour or covert: To reclaim her from this ill quality you muſt take this courſe. Though you do call and draw her along after you by your chirping and whiſtle through the thick and covert places, yet do not there take her to your Fiſt to be fully ſatisfied, but let her ſtill wait on you, till you come to ſome plain place, and there entertain her to the Fiſt, and let her feed a little thereon, then put to her Leaſh, and let her eat the reſt on the ground cloſe by you, and having reſerved ſome ſtump, take her to the Fiſt. Remember that you ſometimes ſtoop gently on your knee, and quietly and ſoftly convey ſome bits unſeen afar off to her, that ſhe ſtrike not at your hand with her Talons, *&c.* Thus doing daily with gentle uſage ſo long as you call her, you will embolden her, and make her ſo familiar as never to offer to carry any thing from you.

When ſhe kills, be ſure to get in gently to her, having before provided her a meal ready dreſt, and as ſhe ſits on the *Partridge*, beſtow the ſame on her in bits with cleanly conveyance, which will prolong her time in pluming, and ſtay the ſharpneſs of her appetite, and deſire to feed, which ſhe muſt not do, for it would cauſe her to love the Bird better than your ſelf, and to be loth afterwards at any time to be bereaved of it, and thereby take occaſion to carry it from you, hoping to enjoy it to her ſelf more quietly and ſecretly: Whereas this courſe will ſo pleaſe her, and draw her love ſo certainly to you, as ſhe will never after offer to carry one feather from you. All this while give her no bloud at all, but with ſome reverſion take her to your Fiſt again. By this means ſhe will never break the Prey ſo long as there is one feather left on it, but ſtill attend for your coming, and to have a reward only at your hand. When you have well nuzled up and inured her herein, afterward when you find her with a *Partridge* in her foot; then after a good time ſpent in pluming, take off the head and neck,

I ſpeak this by experience and on my credit.

neck, and give it unto her with the moſt part of her ſupper together, and ſo take her to your Fiſt.

He preſcribes how to teach a *Goſhawk* to fly to the Wild-duck, which is by providing three or four hand-fowl, and letting her fly and foot them out of your hand one after another, day after day, and letting her plume and be well rewarded on them: And afterward getting another like bird, and letting a companion carry it into a cloſe place or plump of buſhes, and there throw it up in ſight of your Hawk before prepared with a good ſtomach, *&c. In like manner he teaches, how to enter a Hawk to the Rook, Heron, Wild Gooſe, Mew,* &c. *with a train-Rook or two,* &c. *which who deſires to be particularly informed in, may conſult the Author.*

§. IX.

Certain Obſervations for an Oſtreger in keeping a Goſhawk.

A *Goſhawk* that was good in her ſoarage, many times proves worſe after mewing: Becauſe in her ſoarage ſhe was not cheriſhed to make her take delight in her flight. For the chief skill of an *Oſtreger* conſiſts in coying and cheriſhing his Hawk, ſo as ſhe may take pride in her flight. Wherefore it were good at her firſt entring to have always a train-Partridge in his Bag, to ſerve her withal if need be, and ſo win her love.

Ply your Hawk with Tiring and Plumage morning and evening; for that will open her head; and caſt out the moiſt humours, wherewith Goſhawks are naturally troubled. Let her Tiring be a Rump of Beef, or the Pinion of a Wing, or a Chickens Leg, given by the fire, or in the warm Sun, which will not only open her head but keep her in exerciſe.

Give her every night caſting either of feathers or Cotton, and in the morning mark whether it be wrought round or not, whether it be ſweet or not, whether it be moiſt or dry, and of what colour the water is that drops out of it: For thereby you may judge in what caſe your Hawk is. You muſt alſo have regard to the mewts, whether they be clean or not.

In Winter and cold weather ſet your Hawk warm, in ſome place where fire is made, and roll your Pearch with Cotton, or ſome ſuch like thing. Set your Pearch far from the wall, that your Hawk hurt not her feathers when ſhe bateth. If it be not cold, ſet her every morning in ſome place where the Sun hath power for an hour or two.

Let no Hens or Poultry come near the place where your Hawk ſhall pearch.

In the Spring offer your Hawk to the water every week, or elſe ſhe will ſoar away when ſhe fleeth, and make you ſeek her. If any time ſhe bathes of her own accord after her flight, if it be Winter, go preſently to the next houſe, and weather her by a fire with her back to it, and not her gorge, for that would make her ſick: Likewiſe dry her if you have carried her in the rain.

Keep her luſty and high, and yet her ſtomach ſo ſharp, that ſhe may fly eagerly. The plucking down a Hawk mars her, and makes her cowardly; and liable to ſickneſs and infirmity.

Keep your Hawk clean, and her feathers whole, and if a feather be broken or bruiſed imp it preſently.

The firſt year it is beſt to fly your *Goſhawk* to the field, and not to the covert, for ſo they will learn to hold out and not turn tail in the midſt of their flight: And when they are mewed Hawks you may make them do what you will; it is better to let them be a little ramage than over-manned.

Her feeding is beſt on hot meats: And if you would breed her to kill great fowl, make her trains thereof: And if you would have her continue thoſe flights never fly at leſs, for that will take her off from them and ſpoil her.

If you would make her to fly with a Dog to aſſiſt her, feed her with great fowl, and your Dogs with fleſh tied under their Wings. If you train your Hawk with them, reward her upon the train, and your Dog with her: This will make them acquainted together. Thus continue doing till your Dog throughly knows his duty: And be ſure to keep your Dog tied up, for if you let him go looſe, it will ſpoil the beſt Dog that is: And never give him a reward but when he makes in at ſuch Fowls to reſcue the Hawk.

CHAP.

Chap. X.

Of the Sparrow-hawk.

THe *Sparhawk* (ſaith *Latham*) though a demy-creature, yet for her ſpirit and mettle is worthy to march in the beſt company: Nay, there is no better Hawk than ſhe, if ſhe be kept, as ſhe ought to be, luſty and ſtrong. Beſides, he that knows how to man, reclaim and fly a *Sparrow-hawk*, may eaſily know how to keep and deal with all other Hawks.

And herein lieth an excellency in the *Sparrow-hawk*, ſhe ſerves both for Winter and Summer with great pleaſure, and will fly at all kind of Game more than the *Falcon*. If the Winter *Sparrow-hawk* prove good, ſhe will kill the *Pie*, the *Chough*, the *Jay*, the *Woodcock*, *Thruſh*, *Blackbird*, *Fieldfare*: *Latham* adds the *Rook*, *Mew*, *Lapwing*, *Ring-dove*, *Houſe-dove*. To be kept ſtrongly in the Hood and flown from it, ſhe is a moſt excellent Hawk, and will kill more *Partridge* in one day than the beſt long-winged Hawk will do in two.

Her diet ſhould be of the daintieſt meat, unleſs in times of reſt, and then alſo well waſht and dried again, eſpecially if ſhe be mewd.

Againſt ſhe is to fly ſhe muſt be prepared with a ſhort cut, to put a perfect edge upon her, and then ſhe will fly after the beſt manner. Alſo ſhe ſhould not be flown in the Morning, unleſs ſhe be prepared over night with a ſhort and clean ſupper for the purpoſe.

Likewiſe you ought to have always about you a little box full of freſh Butter, mixt with a little Saffron and Sugar-candy, to give with her meat now and then; or let her eat it out of the box: Which ſhe will do with great delight, and it will keep her head evermore looſe, and in good temper, and alſo prevent the Cray, and keep her proud and full of ſpirit.

For the *Eyas* or *Nyas* Sparrow-hawk (which is of greateſt difficulty to bring to perfection) you muſt firſt feed her in ſome cool room, which hath two Windows, the one to the North, and the other to the Eaſt, which muſt be open and barred over with Laths, not ſo wide for a Hawk to get out, or Vermine to come in: Strow the Chamber with freſh leaves, and do in every reſpect to this Room, as was ordered for the mewing of the Falcon.

You muſt feed your *Eyas* with Sparrows, young Pigeons, and Sheeps hearts. Whilſt ſhe is very young and little, you ſhould cut her meat, or ſhred it into ſmall pellets, and feed her twice or thrice aday, according as you find her *endew* it or *put it over*.

When ſhe is full ſummed and flieth about, then give her whole ſmall Birds, and ſometimes feed her on your Fiſt, ſuffering her to ſtrain and kill the Birds in your hand; and ſometimes put live Birds into the Chamber where ſhe is, that ſhe may learn to foot and to kill them; and let her feed upon them in your preſence: By this courſe you will not only *neal* her, but take her off from that ſcurvy quality of hiding her Prey when ſhe hath ſeiſed it, a natural property belonging to all Eyaſſes. Likewiſe every morning go into the Room, call her to your Fiſt, whiſtle and uſe ſuch terms as you would have her hereafter acquainted with. When ſhe hath put forth all her Feathers and is full ſummed, then take her out of the Chamber, and furniſh her with Bells, Bewets, Jeſſes, and Lines.

It will be altogether requiſite to ſeel her at firſt, that ſhe may the better endure the Hood and handling: And let it be a Ruſter-hood, that is large and eaſie, which you muſt pull off and put on frequently, ſtroaking her often on the Head, till ſhe will ſtand gently.

In the evening by Candle-light unſeel her, giving her ſomewhat to tire upon, handling, and ſtroaking her feathers gently, hooding and unhooding her as often as you think fit.

Before I proceed any farther, I ſhall inform you how to ſeel a Hawk after the beſt manner. Take a Needle threaded with untwiſted Thread, and caſting your Hawk, take her by the Beak, and put the Needle through her Eye-lid, not right againſt the Sight of the Eye, but ſomewhat nearer the Beak, that ſhe may have liberty to ſee backward; and have eſpecial care that you hurt not the Web: Then put your Needle through the other Eye-lid, drawing the ends of the Thread together, tie them over the Beak, not with a ſtreight knot, but cut off the Threads near to the end of the knot, and ſo twiſt them together, that the Eye-lids may be raiſed ſo upwards that the

Hawk

Hawk may not ſee at all, but as the Thread ſhall ſlacken, ſhe ſhall be able to ſee backwards only, which is the cauſe that the Thread is put nearer the Beak.

When your *Eyas* is well won to the Hood and to the Fiſt, let her kill ſmall Birds thereon; then call her two or three days or longer, till ſhe will come far off; then take a live Pigeon tied by the foot with a Creance, and ſtir it till your Hawk will bate at it and ſeiſe it, but not far off, that you may quickly help her at the firſt, leſt the Pigeon ſtruggling with her ſhe prove too ſtrong, and ſo diſcourage your young Hawk: Then let her plume and foot her, and feed her thereupon, whiſtling the while, that ſhe may know it another time: Then hood her, and let her plume and tire a little.

You may uſe her to Trains of Chicken and Quail: And when ſhe will ſeiſe readily by often Training, ride out with her in the morning into the Fields, where calling your Sparrow-hawk to your Fiſt, and giving her a bit or two, go with your Spaniels to ſeek ſome *Beavy* of young Quails, advancing your Fiſt aloft, that your Hawk may ſee them when they ſpring, flying her at advantage: If ſhe kill, reward her, *&c.* if ſhe miſs, ſerve her with a Train of a Quail.

Let your Dogs hunt on your right hand when they range, but eſpecially when they *queſt* and *call*, to the end you may the better caſt off your Hawk. When your Hawk is throughly entred and well *nouzled*, you may then hold your hand low, for ſhe will now bate at the *Whurr*: But whatever you do, have a quick eye and a good regard to the Spaniels, not coveting to be too near them, but a little above them, that you may let your Hawk fly coaſting at the advantage when the Game ſpringeth.

§. II.

Of the Brancher, Soar, Mewed, *and* Haggard *Sparrow-hawk.*

HAving ſpoken of the firſt kind of Sparrow-hawks, *viz.* the *Eyas*, the other four in the title of this Chapter muſt conſequently be diſcourſed of.

I ſhall give you but few inſtructions, for in effect the ſame precepts that ſerve for the *Eyas* will ſerve alſo for the *Brancher*, *Soar*, *Mew'd*, and *Haggard* Hawks; only this, theſe four laſt require not ſo much pains to be taken to make them know their Game as the Eyas, becauſe they have been accuſtomed to prey for themſelves.

Above all things the Falconer muſt take them off from their ill cuſtom of *carrying*, and that may be done by ſerving them with great Trains, whereby they will learn to abide on the Quarry.

Be very mindful of *coying* them as much as you can, for they will remember a kindneſs or injury better than any other Hawk.

If the Hawk be newly taken, and will not feed, then rub her Feet with warm fleſh, whiſtling to her, and ſometimes putting the fleſh unto her Beak: If ſhe will not yet feed, rub her Feet with a live Bird; if at the crying of the Bird the Hawk ſeiſe it with her Feet, it is a ſign ſhe will feed; then tear off the Skin and Feathers of the Birds Breaſt, and put the Bird to her Beak, and ſhe will eat.

When ſhe will feed upon your whiſtle and chirp, then hood her with a Rufter-hood, and feed her betimes in the morning; and when ſhe hath endewed, give her a Beaching in the day-time, and every time you hood her give her a bit or two; at evening give her the Brains of a Hen for her ſupper: and in every thing elſe order theſe Hawks aforeſaid as you do the Falcon and the reſt.

§. III.

How to mew Sparrow-Hawks.

SOme uſe to put their Sparrow-Hawk into the Mew as ſoon as they leave flying her, cutting off both her Bewets, Lines, and knots of her Jeſſes, and ſo leave them in the Mew till they are clean mewed.

If you will have your Sparrow-Hawk to fly at Quail, Partridge, or Pheaſant Powt, then you muſt draw her in the beginning of *April*, and bear her on the Fiſt till ſhe be clean and throughly enſeamed.

Others keep their Sparrow-Hawks on the Pearch until *March*, and then throw them into the Mew, peppering them for Lice if they have any. Her Mew ſhould be a Chamber aloft from the ground, eight or nine foot long, and about ſix foot broad: Her Windows and Pearches muſt be like the Goſhawks.

Her

Her Mew being thus provided, in *May* go in to her in an evening by Candle-light, and taking her up softly, pull out all her Train-Feathers one after another: This shall make her mew the faster, especially if you feed her with hot meat and Birds, observing a certain hour to feed her in.

Once in fourteen days set water before her in the Mew: If you perceive she hath any Feathers or Down which stand staring upon her Back, sitting as if she would rouze, then set her water sooner. If you put water by her continually, it delays her Mewing; and to keep it always from her causeth her to mew her Feathers uncleanly: But water once in a fortnight is the best medium for her Mewing between those two extremes.

PART II.

Of Diseases and dangerous Accidents incident to Hawks, *and their several Cures.*

IT is necessary for a skilful Falconer not only to know how to man, reclaim, keep, fly, imp, and mew his Hawks, with other things pertinent to that purpose, but also to know their Diseases, with the proper Cures of them, and other Accidents frequently befalling Hawks, both in their Flights and otherways.

Before we shall characterize their Maladies, and prescribe rules for their Cures, it will be requisite to tell you that Hawks, as well as men, (which seems somewhat strange) have four complexions, the true Indicators of their natures: And as in man his natural Complexion and Constitution is known by his Skin, so is the Temperament and natural Disposition of a Hawk by her Coat and Plume. This opinion hath not been only averred by the Ancients, but confirmed by the modern experience of the skilful in the noble Art of Hawking. Take it in this manner.

Falcons that are *black* are *Melancholic*, and are to be physicked with hot and moist Medicines, because their Complexion is cold and dry; for which purpose Aloes, Pepper, Cocks-flesh, Pigeons, Sparrows, Goats-flesh, and the like, are very good.

Falcons *blank* are *Phlegmatick*, and must have Physic hot and dry, because Phlegm is cold and moist; to which purpose Cinnamon, Cloves, Cardamum, Goats-flesh, Choughs, *&c.* are very good.

Falcons *russet* are *Sanguine* and *Cholerick* indifferently mixt, and their Physic must be cold, moderately moist and dry, as Myrtles, Cassia fistula, Tamarinds, Vinegar, Lambs-flesh, and Pullets.

Thus much for the Complexions: now for the Diseases and their Cures.

Chap. I.

Of Castings and Mewtings, either good or bad, according to their several Complexions and smells.

Castings are of two sorts, *Plumage*, or *Cotton*: The latter is most commonly given in Pellets, which must be about the bigness of an Hazel-nut, made of fine soft white Cotton: After she hath supt you must convey this into her Gorge.

In the morning diligently observe how she hath *rolled* and cast it, whereby you shall know whether she be in a bad or good condition: For example, if she cast it round, white, not stinking, nor very moist or wateriſh, you may conclude her sound; but if she roll it not well, but cast it long, with properties contrary to the former, then she is unsound and full of Diseases.

Besides, if her Casting be either black, green, yellowish, slimy, or stinking, it denotes your Hawk to be diseased. The former Casting is remedied by hot meats; the latter by feeding her well, and washing her meats in cool water, as of Endive, *&c.* and give her one or two Castings of Cotton, incorporating therewith Incense and Mummy. But if she continue notwithstanding in this condition, give her an upward Scowring made thus: Take Aloes pulverized one scruple, powder of Cloves four grains, powder of Cubebs three grains, incorporate these, and wrap them in Cotton, and give it your Hawk empty, having no meat in her Pannel.

Casting

Casting of *Plumage* is to be observed as the former Casting: That is, if in the morning you find them round, and not stinking, it is a good sign; but if long, slimy, with indigested flesh sticking to the same, and having an ill sent, it is very bad. Here note, that by how much the more sweet or stinking the Casting is, by so much is the Hawk in a better or worse condition.

Mewts must be observed as well as Castings, in this manner: If the Mewt be *white*, not very thick nor clear, having no black spot in it, or but very little, it is a sign of the healthy constitution of the Hawk; but if it be white and very thick in the middle, though it doth not import sickness, yet it sheweth her to be too gross and overfull of grease, which you must remedy by giving her moist meats, as the Heart of a Calf or Lamb, *&c.* and for two mornings after give her some Sugar-Candy, or else the Gut of a Chicken well washt, and filled with Oyl-Olive: Either of these will scour her, and make her to *slise* freely.

It is a very bad and mortal sign to see your Hawks Mewt full of variety of colours: therefore you must speedily prevent ensuing mischiefs by giving her Mummy purified and beaten to powder, wrapping it in Cotton.

If the Mewt be more *yellow* than white, then doth she abound with Choler proceeding from great Flights in hot weather, also from much Bating. This is remedied by washing her meat in Bugloss, Endive, Borage, and such like cold waters, wringing the said meat after you have so washed it.

The *black* Mewt is a most deadly sign, and if it continue four days she will peck over the Pearch and die. If she mewt so but once, there is no great danger, for it proceeds either from the Bloud or Guts of the Fowl in tiring, or else from being gorged with filthy meats: In this case give her good warm meat and Cotton-casting, with the powder of Cloves, Nutmeg, and Ginger, or Mummy alone.

If the Mewt be *green*, it is a bad sign, and denotes her troubled with an infected and corrupt Liver, or with some Apostеme, unless she be a Rammage Hawk, and then that sign holds not good. Her Cure is, by feeding her with meat powdered with Mummy; if she will not take it with her Food, then give it her in a Scouring or Casting: But if this ill-coloured Mewting continue still, then give her a Scouring of Agarick, and after that another of Incense pulverized to comfort her.

The dark *sanguine* Mewt with a black in it is the most deadly sign of all, and differs but little, if any thing, from the former *black* Mewt. A Hawk mewting after this manner is irrecoverable, and therefore it is needless to prescribe a Cure.

Lastly, The *grey* Mewt like sour milk is a mortal token, yet curable, as shall be shewn hereafter.

Thus you see how requisite it is for a Falconer to observe diligently every morning his Hawks Castings and Mewtings, that knowing thereby their Maladies, he may timely find out their Remedies. Let us now proceed to their particular Diseases.

Chap. II.

Of the Cataract.

The *Cataract* in the Eyes of a Hawk is a Malady not easily removed, and sometimes incurable, when it is too thick, and of a long continuance.

It proceedeth from gross Humours in the Head, which frequently do not only dim, but extinguish the Sight: and sometimes the Hood is the cause of this mischief.

The Cure must be effected by Scouring her two or three days with Aloes or Agarick: Then take the powder of washt Aloes finely beaten one scruple, and two scruples of Sugar-Candy; mingle these together, and with a quill blow it into your Hawks eye afflicted as aforesaid three or four times a day. This is the gentlest and most sovereign medicine of any yet I have tried. But if this will not do, you must use stronger medicines, as the juyce of Celandine roots, bathing her Eyes often with warm Rose-water wherein hath been boyled the seeds of Fengreek.

Chap. III.

Of the Pantas *or* Aſthma.

THe *Pantas* is a dangerous Diſtemper, and few Hawks eſcape which are afflicted therewith. It happens when the Lungs are as it were ſo baked by exceſſive heat, that the Hawk cannot draw her breath, and when drawn, cannot well emit it again. You may judge of the beginning of this Diſtemper by the Hawks labouring much in the Pannel, moving her Train often up and down at each motion of her Pannel: and ſhe cannot many times mewt or ſliſe, or if ſhe do, ſhe drops it faſt by her. It is known likewiſe by your Hawks frequent opening her Clap and Beak.

The beſt Remedy is, to ſcour your Hawk with good Oyl-Olive well waſhed in ſeveral waters till it become clear and white; which you muſt do after this manner: Take an earthen pot with a ſmall hole in the bottom thereof, which you muſt ſtop with your finger; then pour therein your Oyl with a quantity of water, and coil theſe together with a ſpoon till the water grow darkiſh, after which remove your finger, and the water will run out, but the Oyl remain behind floating on the top; thus do ſeven or eight times, till you have throughly purified the Oyl: Then take a Sheeps Gut above an inch long for a Falcon and Goſhawk, but of a leſs length for leſſer Hawks, and fill it with this Oyl, and faſten it with thread at both ends. Your Hawk having firſt caſt, convey this Gut into her Throat, holding her on the Fiſt till ſhe make a Mewt; an hour after ſhe hath done mewting feed her with a Calves Heart, or a Pullets Leg, giving her every third or fourth day a Cotton-caſting with Cubebs and Cloves. I ſhall only add one Receipt more for the *Pantas* or *Aſthma*, and that is the Oyl of ſweet Almonds poured into a waſht Chickens Gut, and given the Hawk; which is of great efficacy in the cure of this Diſeaſe.

Chap. IV.

Of Worms.

THere are a ſort of Worms an inch long which frequently afflict Hawks, proceeding from groſs and viſcous Humours in the Bowels, occaſioned through want of natural heat and ill digeſtion.

You may know when ſhe is troubled with them by her caſting her Gorge, her ſtinking Breath, her Trembling and writhing her Train, her croaking in the night, her offering with her Beak at her Breaſt or Pannel, and by her Mewt being ſmall and unclean.

You may cure her of them with a Scouring of waſht Aloes Hepatic, Muſtard-ſeed and Agarick, of each an equal quantity; or the Powder of Harts-horn dried; or laſtly, a Scouring of white Dittany, Aloes, Hepatic waſht four or five times, Cubebs, and a little Saffron wrapt in ſome fleſh, to cauſe her to take it the better.

Chap. V.

Of the Filanders.

THere are ſeveral ſorts of *Filanders*, but I ſhall ſpeak but of one ſticking to the Reins. They are Worms as ſmall as a Thread, and about an inch long, and lie wrapt up in a thin Skin or Net near the Reins of a Hawk, apart from either Gut or Gorge.

You ſhall know when your Hawk is troubled with them by her poverty, by ruffling her Train, by ſtraining the Fiſt or Pearch with her Pounces, and laſtly by croaking in the night when the Filanders prick her. You muſt remedy this Malady betimes, before theſe Worms have inlarged themſelves from their proper ſtation, roving elſewhere to your Hawks ruine and deſtruction.

You must not kill them as other Worms, for fear of Impostumes from their corruption being incapable to pass away with the Hawks Mewt; but only stupefie them, that they may be offensive but seldom: And that is done thus; Take a head of Garlick, taking away the outmost rind; then with a Bodkin heated in the fire make holes in some Cloves, then steep them in Oyl three days, and after this give her one of the Cloves down her Throat, and for forty days after she will not be troubled with the Filanders. Wherefore a Falconer will shew himself prudent, if, seeing his Hawk low and poor, he give her once a month a Clove of this Garlick for prevention of the Filanders.

Chap. VI.

Of Hawks Lice.

THese *Lice* do most infest the Head, the Ply of a Hawks Wings, and her Train. In the Winter you may kill them thus: Take two drachms of Pepper beaten to powder, and mingle it with warm water, and with this Lotion wash the places infested with these Lice or Mites: Then set your Hawk on a Pearch with her Back and Train against the Sun; then hold in your hand a small stick about a handful long, with a piece of soft Wax at the end of it, and with that (whilst the Hawk is weathering her self) take away those Vermin crawling upon the Feathers. You may do well to add to the Pepper and Water some Staves-acre.

In the Summer-time you may kill the Lice with *Auripigmentum* beaten to powder, and strowed on the places where they lie.

Chap. VII.

How to keep and maintain all manner of Hawks in health, good plight, and liking.

IN the first place, never give them a great Gorge, especially of gross meats, as Beef, Pork, and such as are hard to be endewed and put over.

Secondly, never feed them with the flesh of any Beast that hath lately gone to Rutt, for that will insensibly destroy them.

Thirdly, if you are constrained to give your Hawk gross food, let it be well soaked first in clean water, and afterwards sufficiently wrung; in Summer with cold water, in Winter with luke-warm water.

Ever observe to reward your Hawks with some good live meat, or else they will be brought too low: However by serving them with washt meats is the way to keep them in health.

I shall conclude how to keep Hawks in perfect health with this most excellent Receipt. Take Germander, Pelamountain, Basil, Grummel-seed, and Broom-flowers, of each half an ounce; Hyssop, Sassifras, Polypodium, and Horse-mints, of each a quarter of an ounce, and the like of Nutmegs; Cubebs, Borage, Mummy, Mugwort, Sage, and the four kinds of Mirobolans, of each half an ounce; of Aloes Succotrine the fifth part of an ounce, and of Saffron one whole ounce. All these you must pulverize, and every eighth or twelfth day give your Hawks the quantity of a Bean thereof with their meat. If they will not take it so, put it into a Hens Gut tied at both ends, and let them stand empty an hour after.

Chap. VIII.

Of the Formica.

THis is a Distemper with commonly seiseth on the horn of Hawks Beaks, which will eat the Beak away: And this is occasioned by a Worm, as most men are of opinion.

You may perceive it by this, the Beak will grow rugged, and it will begin to separate from the Head.

To

To remedy this Malady, you must take the Gall of a Bull, and break it into a dish, and add thereto the powder of Aloes Succotrine: Mingle these well together, and anoint the Clap or Beak of your Hawk therewith, and the very place where the *Formica* grows, twice aday; but touch not her Eyes or *Nares:* continue thus doing till your Hawk be perfectly cured, and bath her with Orpiment and Pepper to keep her from other Vermin.

Chap. IX.

Of the Frownce.

The *Frownce* proceedeth from moist and cold humours which descend from the Hawks Head to the Palate and root of the Tongue, by means whereof they lose their appetite, and cannot close their Clap. This by some is called the *Eagles-bane*; for she seldom dieth of age, but of the over-growing of her Beak.

You may know if your Hawk be troubled with this Distemper by opening her Beak, and seeing whether her Tongue be swoln or no: If it be, she hath it.

There are several ways to cure this Distemper, but the best that ever yet I could find for it is, only to take the powder of Allum reduced to a Salve with strong Wine-vinegar, and wash the Hawks mouth therewith.

Chap. X.

Of the Pip.

The *Pip* frequently troubleth Hawks, as it doth Chickens, and proceedeth from cold and moistness of the Head, or from feeding on gross meat not well washt in warm water in the Winter, and cold water in the Summer.

The Symptoms of this Distemper are the Hawks frequent *Sniting*, and making a noise twice or thrice in her Sniting.

For the Cure hereof, you must cast your Hawk gently, and look upon the tip of her Tongue, and if you find the Pip there, you must scour her with a Pill made of Agarick and *Hierapicra* given two or three days together with her Casting at night; this will cleanse her Head, and the sooner if she be made to tire against the Sun in the morning: Then bind a little Cotton to the end of a Stick, and dipping it in good Rose-water wash her Tongue therewith: After this anoint it three or four days with Oyl of sweet Almonds and Oyl-Olive well washed as before said. Having so done, you will find the Pip all white and soft: Then take an Awl, and with the Point thereof lift up the Pip softly, and remove it, as women pip their Chickens, but remove it not till it be throughly ripe; and wet her Tongue and Palate twice or thrice a day with the aforesaid Oyl, till she be throughly cured.

Chap. XI.

How to remedy that Hawk which endeweth not, nor putteth over as she should do.

This happens either by being foul within, or by a Surfeit; or else when she was low and poor her Keeper over-gorged her, by being too hasty to set her up, and she being weak was not able to *put over* and *endew*, and surfeited thereupon.

The Cure whereof is this: You must feed her with light meats, and a little at once, as with young Rats and Mice, Chickens or Mutton, dipt in Goats milk or otherwise; or give her a quarter of a Gorge of the Yolk of an Egg.

If you feed her with the flesh of any living Fowl, first steep it well in the bloud of the same Fowl, so shall your Hawk mount her flesh apace; if you also scour her

with Pills made of Lard, Marrow of Beef, Sugar, and Saffron mixt together, and given her three mornings together, giving her alſo a reaſonable Gorge two hours after.

Chap. XII.

How to make a Hawk feed eagerly that hath loſt her Appetite, without bringing her low.

A Hawk may loſe her Appetite by taking too great Gorges in the Evening, which ſhe cannot well endew; or by being foul in the Pannel; or ſometimes by Colds.

To remedy which, take Aloes Succotrina, boil'd Sugar and Beef marrow, of each alike, only leſs of the Aloes, incorporate theſe, and make them into Balls or Pills as big as Beans, and give of them to your Hawk, and hold her in the Sun till ſhe hath caſt up the filth and ſlime within her, then feed her not till noon, at which time give her good meat; and three days after for the ſame Diſeaſe it is good tiring on Stock-doves, ſmall Birds, Rats or Mice.

Chap. XIII.

How to raiſe a Hawk that is low and poor.

THe Poverty of a Hawk happens ſeveral ways: either by the ignorance of the Falconer of ſome later lurking Diſtemper; or by her ſoaring away, and ſo being loſt four or five days, in which time finding little or no Prey, ſhe becomes poor and lean.

To ſet her up you muſt feed her, a little at once, and often, with good meat and of light digeſtion, as ſmall Birds, Rats, Mice, *&c.* Or thus: Take two ſpoonfuls of Honey, four of freſh Butter, and boil them together in a new earthen pot of water; then take Pork well waſhed, and ſteep it in that water, giving your Hawk a reaſonable Gorge thereof twice a day, warming the ſaid water when you intend to feed your Hawk: And get ſome Snails that breed in running waters, and give them her in the morning, and they will not only ſcour away the groſs ſlimy humours which are within, but alſo nouriſh her exceedingly.

Chap. XIV.

How to remedy a Hawk that is ſlothful, and is averſe to flying.

A Hawk frequently hath no mind to fly, either by reaſon of her ill keeping, that is, when ſhe is kept by thoſe who know not how to give her her Rights, as *bouzing*, *bathing*, &c. or becauſe the Hawk is too high and full of greaſe, or too poor and low: By the firſt ſhe becomes proud and coy, and by the latter ſo weak that ſhe wants ſtrength and ſpirit to perform it.

For the curing of which Diſtemper, ſhe ought to be throughly viewed by ſome skilful Falconer, by whom ſuch Remedies ſhould be adminiſtred to her as are needful for her: But above all there is nothing like giving her in a morning three or four Pills of Celandine well waſht.

Chap. XV.

Of Swoln Feet *in a Hawk.*

HAwks have *Swelling* in their *Feet* upon ſeveral accounts: Sometimes by chafing their Feet in flying their Prey, ſtriking it, and taking cold thereupon; ſometimes for want of rolling or lining the Pearch with ſome ſoft warm cloth; or elſe through groſs Humours and Foulneſs within, which through exerciſe drop down into their Feet, and ſo cauſe them to ſwell; laſtly, this Swelling happens by pricks when they fly fiercely into Buſhes after Game.

For a Remedy, you muſt ſcour your Hawk three mornings together with the Pills of Lard, Marrow, Sugar, and Saffron, and ſet her in the Sun; two days after this feed her with good meat; then take Bole-Armoniack, and half the quantity of *Sanguis Draconis*, and having made them into powder, temper them well together with the white of an Egg and Roſe-water, and anoint her Feet twice a day three or four days together, ſetting her on ſome Cloth to keep her Feet warm.

Chap. XVI.

How to ſcour Hawks before you caſt them into the Mew.

WHen Mewing time is come, you muſt ſcour and cleanſe your Hawks; for in luring and flying-time by foul feeding they engender Filanders and other Diſtempers, whereof they die for want of timely care and cure.

The beſt way is, (when you mean to caſt a Hawk into the Mew) firſt to ſcour her well according to former directions, to cope her, and ſet her up well in fleſh, to diſcharge her, as near as you can, of all Diſeaſes, alſo to free her from Mites and Lice to ſet her water, ſometimes to feed her with young Rats, Mice, Dogs-fleſh, Pigeons, Rabbets, and now and then with ſome liquid thing and meats laxative.

Take notice of this ſpecial Obſervation: A Haggard is not to be caſt in looſe to the Mew, but is to be mewed on the Fiſt, for otherwiſe ſhe will become too coy and ſtrange: And if ſhe fall to bating and beating her ſelf for heat, then muſt you hood her up, or beſpout her with cold water, which is the readieſt way to make her leave Bating.

You muſt continue her on the Fiſt till ſhe begin to ſhed her Feathers, then ſet her down and tie her to a Stone or Pearch, as you do the reſt; and after ſhe hath mewed and comes to fly, then let her ſtand on a Block or Billet caſed or rolled. In the ſame manner mew Goſhawks, Tiercels, and Sparrow-hawks; only they will not be born on the Fiſt, but be at liberty in the Mew, and very cleanly ſerved.

Fifteen or twenty days before you draw your Hawk out of the Mew you muſt begin to abate her of her diet, the ſooner and better to enſeam her.

Many more Diſeaſes there are incident and Accidents hapning to Hawks, of which with their Cures there are large diſcourſes written in Italian, French, and Engliſh, and therefore I thought fit to inſert in this place no other Maladies than what moſt uſually occur: If you deſire to be farther ſatisfied, I ſhall refer you to thoſe larger Volumes.

An account of some Sea-fowl out of the Description of the Fœroe *Islands.*

IN the Description of the *Fœroe* Islands, written by *Lucas Jacobson Debes*, I find an account of the manner of breeding and taking of some Water-fowl described by us, Book 3. Part 3. Sect. 1. Chap. 2, 4, 5. and Sect. 3. Chap. 2. which because it confirms and illustrates what we have there delivered, I shall here subjoyn. The names by which these Birds are known in the *Fœroe* Islands are the *Skrabe*, the *Lunde*, the *Lomwifve*, and the *Sea-Daw*. The *Skrabe*, that is our *Mank Puffin*, comes in *February* about St. *Matthias* day, and fareth away about St. *Bartholomew* tide [*Aug.* 24.] The *Lomwifve*, that is our *Guillemot*; and *Sea-daw*, that is our *Razor-bill*, come about St. *Gregories* tide, [*March* 12.] and fly away at *Mary Magdalens* [*July* 22.]

The Skrabe or Puffin.

The aforesaid sorts of Birds lay every one but one Egg, and get but one Young every year; and though they be those that are chiefly fought for, and there be taken of them 100000 every year, there is nevertheless more of them than of any other sort; yea, by the admirable providence of God, they are so plentiful, that in clear weather they can darken the shining of the Sun, as it were with a thick cloud, making such a terrible noise with their Wings in flying, that they who hear it, and do not know the cause thereof, would not think otherwise than that it were Thunder.

The *Skrabe* [*Puffin*] builds on the Land under the earth; scraping with its Beak and Claws, lying on the back, (whence it is called a *Skrabe*) it diggeth a hole in some places a foot deep, in some other eight or ten foot in several turnings, seeking especially to dig it self behind a stone, where it thinketh to lie securest. It is very remarkable, that this Bird is the whole day away from its Young and never comes to it but in the night to feed it; and if it flies not from its Young at the dawning of the day it stays with it the whole day over, and then flyeth out to Sea till the other night cometh: And though the Young be fed but once a day, yet it is so fat, that no Goose, though it hath been three weeks fed, can be fatter. These young ones they call Lyers, and by reason of their fatness they do not make present use of them, but salt them to eat them in Winter, melting their fat, which they burn in Lamps. They have to take them out several hooks half an Ell, or an Ell long, wherewith they pierce them through and draw them out. They do not usually take the Dam her self, except she be sometimes hurt with the hook that she cannot live. If they cannot get the young one with their hook, or by thrusting their arm into the birds Nest, by reason of the many turnings, they dig a hole down to it, as near as they can guess, and then thrust about with their hooks till they can get it: Which hole they must again stop so close, that not one drop of water can come into it, for else she will forsake her hole, and never come thither more; which otherwise she doth every year in the wonted place; so that the Inhabitants know where under the earth to find that Birds Nest yearly.

The Lunde or Coulterneb.

The *Lunde*, so called also by *Hoier* in his Epistle to *Clusius*, and by *Clusius Anas Arctica*, by us *Coulterneb* and *Mullet*, hath a strong crooked Beak, so that if it biteth a man by the hand it teareth off the flesh. It wageth war with the *Raven*, that cometh to take it away and its young ones: It being a wonderful spectacle to see their fight; for as soon as the *Raven* cometh near, the *Lunde* catcheth it under the Throat with its Beak, and graspeth it about the Breast with its Claws, so that the *Raven* cannot hurt it, but must fly away with a great crying. The *Lunde* holds it fast in the mean time without letting it go, till they come into the Sea, where slipping it is drown'd. Yet the *Raven* doth often take the *Lunde* at unawares, rusheth into its hole, takes and eats it up. *I suspect there is something of fabulous in this Narration.* The said Bird, the *Lunde*, buildeth its Nest sometimes on the Continent, far from houses, digging it self two or three yards, according to the nature of the place, under ground; sometimes in *Ures* (that are places under high Cliffs, full of great and small stones, that fall from the Cliffs, and by length of time are filled between with earth, and covered with grass) in which places they dig themselves into the earth, or build, where there is no earth, their Nest under and between stones, where they can come to breed their Young with most security. The most part being taken in such places, so that a man may often take above a hundred *Lundes* in one Ure. Some of them

them build on the side of Promontories, where they find great tufts of earth in flat places, and when they fly from their Nests, they first make them clean, scraping all the dirt and old roots out of the holes, and putting fresh grass in them again. The *Lundes* that make their Nests in the fields are taken as is said above of the *Skrabe*: But for such as are under those many stones, they let run unto them some little Dogs, that are so taught, as to bring out both Bird and Egg to their Masters: But when the Birds are flown, the men take them flying; which is done in this manner. They have a long pole, at the end of which there is a Hoop drawn over with a Net, whereof the Mashes are almost are almost as big as the quarries of a glass-window, being like the Net wherwith they take *Shrimps* in some places, and this they call a Stang or Staff, with this Staff the Fowler sitteth on the Cliff, or in the Ures among the great stones, where he knoweth most Fowl to come, which they call flight-places, and when the *Lunde* cometh flying either from or to the Land, he lifts up the Staff and the Net against the Fowl, and when he hath got it into the Net, he turneth the Staff about, that it may entangle it self the better therein: A man being sometimes able to take two hundred *Lundes* in that manner in a very short time.

The *Lumwifve*, that is *Hoiers Lomwia*, and our *Guillem* or *Skout*, layeth her Eggs on the bare Points and Cliffs of high Rocks and Promontories, there lying on these Cliffs some hundred Eggs, according as the place is large, but three fingers breadth from one another, and when the Birds fly away the Eggs rowl often down into the Sea. But laying but one Egg she sitteth streight thereon, and continueth so a months time, never stirring from the place till her young one be hatcht; in the mean time the Cock bringeth her to eat. They lay in this manner, sitting close one to another, Bird by Bird all over the place, so that the Cliff seemeth quite black, and the young one being hatch'd, she remains yet three weeks with it, and then taketh it on her back and carrieth it to Sea. When the Fowler cometh to that place, if there have not often been men there before, it hapneth sometimes that the old will not leave their young ones, and therefore are taken with the hand as many as they are and killed; but where they are grown wild by reason of mens continual hunting after them, they fly away, the young ones running together in a flock, and when the Hen cometh again, she seeks the same place where she sate before, and clacketh so long till her young one cometh to her, being very well able to discern its own Dam, though they be all shaped alike, and when she giveth her Young to eat she putteth her head back under her Wing, giving it so to eat backwards. The Lumwifve or Guillem.

The *Daw*, that is *Hoiers Alka* and our *Awk*, (whence I guess the Author was mistaken in the name) hatcheth its young ones in holes and chinks of high Promontories. That *Hoier* was not mistaken in the name of this Bird I conclude, because it is called by the very same name, *viz. Auk*, in the North of *England*; so that it is manifest either our Northern men borrowed it of the *Ferroese*, or the *Ferroese* of them, it being very unlikely that by chance they should impose the same name upon it. But that ours borrowed this name of the *Ferroese* seems to me more probable because in other parts of *England*, farther distant from the *Ferroyer* Islands this Bird is called by other names. And yet possibly it may be also called a *Daw* in those Islands, as either it or the *Guillem* is in *Cornwall*. Why they should call it a *Daw*, I cannot imagine unless from its bigness, and the colour of its back. The Daw or Razor-bill.

It cannot be exprest with what pains and danger they take these Birds in those high and steep Cliffs, whereof many are above two hundred fathoms high, there being men apt by nature, and fit for that work, called Fowlers, who take them usually in two manners: For either they climb from below up into these high Promontories, that are as steep as a wall, or they let themselves down into them from above, with a thick, strong, hemp-rope, when they climb from below, they have then a pole five or six Ells long, with an iron hook at the end, which they that are below in the Boat, or on the Clift, fasten unto the mans Girdle, or another Rope that the Fowler hath about him, helping him thus up to the highest place, where he can get footing: afterwards they also help up another man, & when they are so several come up, every one with his Fowling Staff in his hand, and the long Rope between them tied to each others waste, they climb so as high as possibly they can; and where they find difficulty they help each other up by thrusting one another under the breech with their Poles: And when the first hath taken footing, he draweth the other up to him by the Rope fastned to his waste, and so they proceed on till they come to the place where the Birds build; going then after them about the hill as they please, and there being many dangerous places to climb about, having bound themselves at the Ropes end, the one seeketh a

convenient

convenient place where he can ſtand ſure, and hold himſelf faſt, whilſt the other goeth about theſe dangerous places; if it then happen that he chanceth to fall, the other that ſtands firm keeps him up, and helps him up again: But if he paſſeth ſafe, he likewiſe faſtneth himſelf till the other hath paſſed that dangerous place; and ſo they go about the Clifts after Birds as they pleaſe; though it often hapneth, the more is the pitty, that when the one doth not ſtand faſt, or is not ſtrong enough to hold up the other in his fall, that they both fall down and kill themſelves; in which manner ſome do periſh every year.

Mr. *Peter Clauſon* in his deſcription of *Norway* writeth, that there was anciently a Law in the Country that whoſoever climbed ſo on the Clifts, that he fell down and died, if the body was found to be buried, his next Kinſman ſhould go the ſame way; but if he durſt or could not do it, the dead was not then to be buried in Sanctified earth, as one that had been too full of temerity, and was his own bane. But there is found nothing of that Law now adays.

When they then are come, in the manner aforeſaid, to the birds, within the Clifts where they ſeldom come, the Birds are ſo tame that they can take them with their hands, for they will hardly leave their young ones; but where they are wild, they either caſt the Net over them on the Clift; and againſt thoſe that either fly from thence or thereunto, they oppoſe the Fowling Staff with its Net, and intangle them therein. In which manner they take a great multitude of *Lummifves*, *Daws*, and *Lundes*. In the mean time there lieth a Boat beneath on the Sea, wherein they caſt their Birds killed; and in this manner they can in a ſhort time fill a Boat with Fowl. When it is pretty fair weather and there is good Fowling, the Fowlers ſtay in the Clifts ſeven or eight days together, for there are here and there holes in the Rocks, where they can ſafely reſt, and they have meat let down to them with a line from the top of the Mountain. In the mean time ſome go every day to them to fetch home what they have taken.

Some Rocks are ſo difficult, that they can in no manner get unto them from below, wherefore they ſeek to come down thereunto from above, which they call to Sie, and is the ſecond manner to purſue birds, being performed in this manner: They have a Rope eighty or a hundred Fathoms long, and three Fingers thick, the Fowler maketh the end thereof faſt about his Waſte, and between his Legs, ſo that he can ſit thereon, and thus is let down, with the Fowling Staff in his hand; ſix men hold by the Rope and let him eaſily down, laying a piece of wood on the brink of the Rock, upon which the Rope glideth, that it may not be worn to pieces by the hard and rough edge of the ſtone: They have beſides another ſmall line that is faſtned to the Fowlers body, on which he pulleth, to give them notice how they ſhould let down the great Rope, either lower or higher, or to hold ſtill, that he may ſtay in the place whereunto he is come; here the man is in great danger, becauſe of the Stones that are looſened from the Clift by ſwinging of the Rope, which often fall upon his head, and he cannot avoid it, wherefore he hath uſually on his head a Sea mans Cap, that is thick and very ſhaggy, to defend him in ſome meaſure from the blows of the Stones, if they be not too big, otherwiſe it coſteth him his life. They put nevertheleſs themſelves continually in that danger, for our wretched bodies foods ſake, hoping in Gods mercy and protection, unto which the moſt part of them do alſo devoutly recommend themſelves, when they go to that work. Otherwiſe they ſay there is no other great danger in it, but that in it ſelf it is a toilſom and artificial labour; for he that hath not learned to be ſo let down, and is not uſed thereunto, is turned about with the Rope, ſo that he groweth giddy and troubled in his head, and can do nothing, but he that hath learned the art taketh it for a ſport, knowing how to ſwing himſelf on the Rope, to ſet his feet againſt the Rock, caſting himſelf ſome fathoms from thence, whence he ſhooteth himſelf again to what place he will, and knoweth where the Birds are; he knoweth alſo to ſit on the line in the Air, and how to hold the fowling Staff in his hand, taking therewith the birds that come, or fly away, and when there are holes in the Rock, and it ſtretcheth it ſelf out, making underneath as a ſieling, under which the birds are, he knoweth skilfully (which is the greateſt art) to ſhoot himſelf a great way from the Clift, and ſwiftly to ſwing himſelf under the roof, and there take footing, making himſelf, when he is in theſe holes, looſe of the great Rope, which he faſtens to a ſtone of the Rock, that it may not ſlip from him to the outſide of the Clift; and then he goeth about in the Rock, taking the Fowl either with his hands, or with the Fowling Staff; according to the manner aforeſaid; and when he hath killed as many Birds as he thinketh fit, he ties them in a bundle, and faſtneth them to the little Rope, giving a

ſign

ſign by pulling, that they ſhould draw them up, working thus the whole day: And when he will get up, he ſitteth again upon the great Rope, giving a new ſign that they ſhould pull him up, or elſe he worketh himſelf up climbing along the Rope with his Girdle full of Birds. It is alſo uſual that where there is not folks enough to hold the great Rope, the Fowler driveth a poſt ſloaping into the earth, and maketh the Rope faſt thereunto, letting ſo himſelf down without any bodies help, to work in the manner aforeſaid; ſome Rocks are ſo formed that one can go in them from the Land, and there he taketh his Comrades with him, proceeding in the manner aforeſaid, each taking as much Fowl, as the Girdle about his Waſte can hold, and as much as he can carry in a bundle on his back, carrying them in that manner home. There are alſo in ſome places high ſteep Clifts, under the Land, that ariſe above an hundred Fathoms from the Sea, that are almoſt as bad to come unto as the Rocks, whereunto they help alſo one another in the aforeſaid manner, taking a ſtrong Rope with them, which they faſten here and there about the Clift, and let it hang there the whole Summer, by which they nimbly climb up to take Fowl when they pleaſe.

Theſe manners are more terrible and dangerous to ſee, then to deſcribe, ſpecially if one conſiders the ſteepneſs and height of the Rocks, it ſeeming not poſſible that a man could come to them, much leſs climb or be let down into them. They go alſo in ſome places where they can only faſten the ends of their Toes and Fingers, not ſhunning ſuch places, though there be a hundred Fathoms height between them and the Sea.

It is a dear Meat for theſe poor people, for which they muſt venture their Lives ſo extremely, and many after long venturing at laſt do periſh therein.

When that Fowl is brought home, a part thereof is eaten freſh, another part, when there is much taken, being hung up to dry for Winter proviſion. The Feathers being gathered to make Merchandize of for other expences.

The Inhabitants get a great many of thoſe Fowls as God giveth his bleſſing, and fit weather. Yet this is not every where in the Land, but only in the Iſlands that lie towards the Sea, and have great Promontories, as the Northern *Iſlands*, *Myggyneſs*, *Waagoe*, *Skuo*, the *Diemens*, and *Suderoe*.

And when it is dark Weather, they take moſt, for then the Birds ſtay in the Rocks, but in clear Weather and hot Sun-ſhine they ſeek the Sea, and againſt their flying away, they keep themſelves moſt there, ſitting on the Clifts towards the Sea ſide, where people go alſo ſometimes to them with Boats, and take them with Fowling Staves.

THE INDEX.

A

A Cacacahoactly, or the hoarse bird Page 388
Acacalotl 296
Achalalactli 390
Acitli, a sort of Douker 339
Acolchichi 391
Acolin, or Water-Quail 387,393
Acototloquichitl 388
Aguapocaca, a sort of Water-hen 317
Aiaia, the Brasilian Spoon-bill 289
An Alp or Bulfinch 247. T. 44.
Alluco, a kind of Owl 104. T. 13
Amadavad bird 266. T. 46
Amalozque 390
Anhima, a Brasilian Bird 276. T. 47
Anhinga, a Brasilian Diver 332. T. 72
Aracari, a Brasilian Woodpecker, 140. T. 22
Artenna, Diomedean bird 332
Atinga guacu mucu 198. T. 38
Attagen, a kind of Heathcock 174. T. 31
The Auk or Razor-bill 323. T. 64
Avosetta 321. T. 60
Aura v. *Urubu.*

B

Barge, a sort of Godwit 292
Barley-bird, i. e. *Siskin* 261
Barnsiard 395
Beccofigo or Fig-eater, 216,226,227. T. 23,41
Bee-eater 147,148. T. 24
Bernacle or Clakis 359
Bill-cock or Water-Rail 314
Bitour or Bittern 282. T. 50,52
Blackbird 190
Black-cap 226. T. 41
Brasilian Blackbird 193
Red-breasted Indian Blackbird 194
Blue-bird 192
Boarina 217
Brambling 254. T. 45
Great pied Brambling 255. T. 77
Brent-goose 359. T. 69
Bulfinch 247. T. 44
American Bulfinch Ibid.
Bunting 267. T. 40
Bustard 178. T. 32
Butcher-Bird the greater 87. T. 10
The lesser 88. T. 10
Bald Buzzard 69. T. 6
Common Buzzard 70. T. 6
Honey Buzzard 72. T. 3
Moor Buzzard 75. T. 7

C

Cabure, a Brasilian Owl 107
Calandra, a kind of Lark 208
Canary-bird 262. T. 46
Canne-petiere 179
Capon 154
Caracara or Brasilian Kite 76. T. 9
Cardinal bird, vide *Virginian Nightingale.*
Cariama 276. T. 51
Caryocatactes or Nut-breaker 132. T. 20
Cassowary 151. T. 25
Catarracta 349. T. 67
Cencontlatolli 394
Cenotzqui 394
Ceoan 394
Cepphus 351. T. 67
Chaffinch 253. T. 45
Chatterer of Bohemia 133. T. 20
Chicuatli 395
Cinclus T. 5[illegible]
Citril 265. T. 46
Cornish Chough 126. T. 19
Churn-owl 107. T. 14
Cirlus stultus 271
Clakis or Bernacle 359
Cock 154. T. 26
Cock of the Wood 172. T. 30
Cocoi, a kind of Heron 284. T. 51
Cocotzin, vide *Barbados Turtle*
Coddymoddy 350. T. 66
Colivicuiltic 393
Coldfinch 236
Colin 393
Cole-mouse 241. T. 43
Coot 320. T. 51,59
Cormorant 329. T. 63
Cornet-Duck 387
Coulterneb 325. T. 65
Coyalcozque 393
Cozcaquautli 390
Water-crake 149. T. 24
Crane 274. T. 48
Balearick Crane 275. T. 48
Indian Crane Ibid.
Crex 297
Creeper 144. T. 23
Wall-creeper or Spider-catcher 143. T. 23
Cross-bill 248. T. 44
Crow 122. T. 18
Royston Crow 124. T. 18,77
Cuckow 97. T. 10,77
Culver or Dove 180

Curicaca, a Braſilian Curlew 295. T.54
Curlew 294. T.54
Indian Curlew 296
Stone Curlew 306. T.58,77
Curucui 140. T.22
Curwillet 302
Cyprus bird 227

D

Daie 385
Daker-hen or Rail 170. T.29
Didapper or Dobchick 340. T.61
American Diver T.42
Dun-Diver 333. T.64
Black-Diver 366
Leſſer creſted Diver T.64
Dodo or Dronte 153. T.27
Dottrel 309. T.55,57
Sea-Dottrel 311. T.58
Doucker 338. T.59
Great creſted Doucker 339
Creſted Mexican Doucker Ibid.
Creſted and horned Doucker 340. T.61
Small Doucker, vide *Didapper*.
Greateſt ſpeckled Doucker 341. T.62
Geſners greateſt Doucker 342. T.61
Wormius's Northern Doucker 343. T.62
Dove or Pigeon 180,181, &c. T.33,34
Greenland Dove 326
Drake 361
Duck Ibid.
Black Duck of Aldrovand 363. T.70
Burrow Duck Ibid. T.70
St. Cuthberts Duck 362. T.76
Red-headed Duck the greater 364. T.72
The leſſer 367. T.73
Moſcovy Duck 381. T.75
Cairo Duck of Aldrovand 381
Geſners Indian Duck
African Duck or Guiny Duck 381
Scaup Duck 265
Sharp-tail'd Duck of Iſland 364
Common ſharp-tail'd Duck 376. T.73
Common tame Duck 380. T.75
Common wild Duck 371. T.72
Hook-bill'd Duck 381. T.75
Tufted Duck 365. T.73
Bellonius his Field Duck 179
Braſilian wild Ducks 378, 379
Dunlin 305

E

Black Eagle 61. T.2
Creſted Braſilian Eagle 63. T.4
Golden Eagle 58. T.1
Sea Eagle 59. T.1
Vulturine Eagle 64. T.4
White-tail'd Eagle 61
Eider, a ſort of Duck 362
Elk, i.e. *wild Swan* 356. T.69
Emew or Caſſowary 151. T.25
Erand-gaas 395

F

Falcinellus 295. T.54
Falcon Gentle 79
Ger-falcon and Jerkin 78. T.8
Haggard Falcon 80. T.8
Red Indian Falcon 81. T.9
Creſted Indian Falcon 82
Mountain Falcon 78. T.9
Peregrine Falcon 76. T.8
Red Falcon 81
Stone Falcon 80
Tree Falcon Ibid.
Tunis or Barbary Falcon 81
White Falcon 80
Fallow-ſmich 233. T.41
Francolinus 174. T.31
Fieldfare or Feldefare 188. T.37
Mountain Finch or Brambling 255
Chaff-Finch 253. T.45
Gold-Finch 256. T.46
Green Finch 246. T.44
Flammant or Phenicopter 320. T.60
Fluſher 88. T.10
Francolin T.31

G

Gadwall or Gray 374. T.72
Gambetta 300
Gannet 348. T.67
Garganey 377. T.74
Garragay 391
Giarola 209
Gill-hooter or Owl 99, &c.
Glareana 211
Glead or Kite 74. T.6
Goatſucker or Churn-owl 107. T.14
Godwit 292. T.53
Golden-eye 368. T.73
Goldfinch 256. T.46
Goligod, i.e. *Sea-Lark* 311
Tame Gooſe 358. T.75
Wild Gooſe Ibid. T.69
Brent Gooſe 360. T.66
Swan Gooſe Ibid. T.71
Canada Gooſe 361. T.70
Gambo Gooſe 360. T.71
Rat or Road-Gooſe 361. T.76
Gooſander 333. T.64
Gor-cock 177
Goſhawk 85. T.3, *and* 5
Green-finch 246. T.44
Griffon a fabulous bird omitted.
Grinetta 315
Griſola 211
Grosbeak 244. T.44
Grous or Heathcock 173. T.31
Guara 296. T.54
Guarauna

Guarauna 292. T.53
Guillem and Guillemot 324. T.65
Guiny Hen 162. T.26,27
Guira acangatara 140. T.22
Guira cœreba 239
Guira guacuberaba Ibid. T.41
Guira guainumbi 148. T.24
Guira querea 108. T.14
Guira perea 256
Guira punga 199. T.38
Guira nheemgheta
Guiraru nheemgeta 235
Guiraienoia 241
Guira tinga 285
Guira tangeima 141. T.23
Guira tirica, American Bulfinch 247
Guitguit 385
Greateſt black and white Gull 344. T.67
Herring-Gull 345
Aſh-coloured Gull 346. T.66,67
Bellonius his white Gull 348
Great grey Gull 349. T.66
Aldrovands greater Gull 351
Braſilian Gull 352
Cloven-footed Gulls 354. T.68

H

Haſſhert of Hoier 395
Hang-neſt of America 141. T.23,77
Havelda, a kind of Duck 364
Harpye, a fabulous bird omitted.
Hawk 68
Haw-finch 244. T.44
Long-winged Hawks 69, &c.
Short-winged Hawks 85
Hazel-Hen 175. T.31
Heathcock 173. T.31
Heatototl 339
Hedge-Sparrow 215
Helſingagaas 395
Hen 154. T.26
Indian Hen 161. T.28
Mozambique Hens 387
Hen-harrier 72. T.7
Heron common aſh-coloured 277. T.49
Leſſer aſh-coloured 279. T.49
Greater white 279. T.49
Leſſer white 280
Red-leg'd 282. T.50
Bow-bill'd Ibid. T.50
Speckled or red 283
Braſilian 285. T.51
Heyhoe 135. T.21
Hickwall 138. T.21
Himantopus 297. T.54
Hirngryl or Serin 265. T.46
Hoactli 389
Hoacton 391
Hoactzin 389
Hobby 83. T.7
Hoitlallotl 393
Hooper, i. e. wild Swan 356. T.69
Hoop or Hoopoe 145. T.24
Hortulane 270. T.40
Howlet, vide Owl 99, &c.
Humming bird 230. T.42

I

Jabiru or Negro 275. T.47
Jabiru guacu 276. T.47
Jacamaciri 139. T.22
Jacana 317. T.59
Jacarini 258
Jackdaw 125. T.19
Jacupema 165. T.28
Jaguacati guacu 147. T.24
Jamacaii 239. T.42
Japacani 240
Ibijau, a Braſilian Goatſucker 108. T.14
Ibis of Bellonius 288. T.49
Jay 130. T.19
Jerfalcon 78. T.8
Jerkin Ibid.
Ipeca guacu, a Braſilian Duck 383. T.62
Ipecati apoa 379. T.75
Ipecu 138. T.22
Judcock or Jack-ſnipe 291
Junco 313. T.58
Jupujuba 142. T.23

K

Eſtrel or Stonegall 84. T.5
Kingfiſher 146. T.24
Kite 74. T.6
Braſilian Kite 76. T.9
Knot 302. T.56

L

Land-Hen 316
Lanner and Lanneret 82
Lapwing 307. T.57
Lark 303. T.40
Skie-Lark Ibid. T.40
Wood-Lark 204. T.40
Creſted Lark 208. T.40
Sea-Lark 310. T.57,58
Titlark 206,207
Laughing Bird 387
Common Linnet 258. T.46
Red-headed Linnet 260. T.46
Mountain Linnet 261
Loon vide *Doucker* T.61
Lumme of Wormius T.63

M

Maccaws of ſeveral ſorts 110, 111. T.15
Macucagua 163. T.26
Magpie or Pianet 127. T.19
Maguari 287

Maia 386
Maiague 334. T.62
Sea-Mall T.76
Maracana 112
Mareca 379
Bank Martin 213. T.39
Martin or Martlet 213. T.39
Black Martin 214. T.14,39
Mattageſſe, vide *Great Butcher-bird*
Matkneltzel 304. T.56
Motuitui 199. T.38
Mavis or Throſtle 188. T.37
Mergus Rheni 337
Merlin 85. T.3
Sea-Mew, vide *Gull.*
Mire-crow, vide *Pewit.*
Mire-drum, vide *Bittour*
Miſſel-bird or Thruſh 187. T.36
Mitu 160. T.28
Mituporanga Ibid. T.28
Indian Mockbird 193
Momot 386
Morehen 312. T.58
Moretitling 235. T.41
Morillon 368
Morphnos, a kind of Eagle 63. T.2
Moucherolle 217
Muggent 375
Murre 323. T.65

M

Nightingale 220. T.41
Virginian Nightingale 255. T.44
Night-raven 279. T.49
Noctua, a kind of Owl 106,107. T.13
White Nun 337
Nun, i. e. *Blue Titmouſe* 242
Nuthatch 142. T.23
Nhanduguacu, vide *Oſtrich.*

O

Osprey or Sea-Eagle 59. T.1
Oſſifrage Ibid. T.1
Oſtrich 149. T.25
Water-Ouzel Ibid. T.24
Roſe-Ouzel 194
Ring-Ouzel 194
Rock-Ouzel 195,197. T.38
Great Eagle-Owl 99. T.12
Horn-Owl 100.101. T.12
Brown or Ivy Owl 102. T.14
Grey Owl 103. T.13
White or Church Owl 104
Little Owl 105. T.13
Screetch Owl. 102. T.14
Fern-Owl. vide *Goat-ſucker*
Ox-eye 240
Ox-eye-Creeper, vide *Creeper.*

P

Birds of Paradiſe 90,91,&c. T.11,77
White creſted Parrot 112. T.15
Common green Parrot 113. T.16
Parrots of ſeveral ſorts 113,114,&c. T.16
Parrakeets 115, &c. T.16
Partridge common 166. T.28
Braſilian 167
Damaſcus Ibid. *and* 178. T.29
Red-leg'd 167. T.29
White 176. T.32
Peacock 158. T.27
Penguin 322. T.65
Pelecan 327. T.63
Pettichaps 216
Petronia marina 267
Pewit 347. T.66
Pheaſant 163. T.28
Sea-Pheaſant 376. T.73
Phenix, a fabulous bird omitted.
Phenicopter 320
Pie 127. T.19
Sea-Pie 297, 132. T.55
Braſilian Pie 128. T.20
Perſian Pie 132
Pianet, vide *Pie.*
Picicitli 394
Picuipinima, a Braſilian Pigeon.
Pigeons wild and tame 180,181,&c. T.33,34
Pitanga guacu 198. T.38
Great Plover or Klut 298. T.55
Green Plover 308. T.57
Grey Plover 309. T.57
Baſtard Plover, vide *Lapwing.*
Pochard or Poker 367. T.72
Porphyrio 318
Puffin 325. T.65
Manks Puffin 333
Purre, i. e. *Stint* 305
Puttock or Buzzard 70. T.6
Pygard or white-tail'd Eagle 61

Q

Quechilto 319
Quapachtototl 387
Quail 169. T.29
Indian Quail 171. T.29
Quatotoni 390
A Queeſt, vide *Ring-dove.*
Quetzaltototl 391

R

Rabihorcado 395. T.77
Rail 170. 29
Water-Rail 314. T.58
Rain-fowl 135. T.21
Raven 121. T.18
Water-Raven 196
Indian

Indian Raven 126. T.17
Horned Raven 127. T.17
Razor-bell or Awk 323. T.65
Red-game 177
Redſhank 299. T.55
Redſtart the greater 197. T.36
The leſſer 218. T.39
Redwing or Swinepipe 189
Reed-Sparrow the greater 143
The leſſer 144,269
Rhinocerot-bird 127. T.17
Ring-dove 185. T.35
Ring-tail 72. T.7
Robin-red-breaſt 219. T.39
Rock-Pigeon 186
Roller 131. T.20
Rook 123. T.18
Roth bein lein T.42
Rotknuſſel 304. T.56
Ruff and Reeve 302. T.56
Velvet Runner 315

S

SAcre 77
Sand Martin 214. T.39
Sanderling 303
Sand-piper 301. T.55
Scare-crow 353. T.68
Scurvogel or Jabiru 276. T.47
Sayacu 256
Scoter 366. T.74
Serin 265. T.46
Sguacco 281
Shag 332. T.63
Sheld-dapple 248. T.44
Sheldrake 363. T.70,71
Shore-bird i. e. *Sand-Martin.*
Shoveler 370. T.74
Shrike, vide *Butcher-bird.*
Shrite, vide *Miſſel-bird.*
Siskin 261. T.46
Smew 337. T.64
Hoiers Skua 348. T.67
Soco, a kind of Heron 284. T.51
Snipe 291. T.53
Jack-Snipe Ibid.
Snow-bird 394
Soland Gooſe 328. T.63
Sparlin Fowl 335
Sparrow-Hawk 86. T.5
Houſe-Sparrow 249. T.44
Long-tail'd Indian Sparrow T.45
Fooliſh Bononian Sparrow Ibid. T.45
Fooliſh Sparrow 385
Solitary Sparrow 191. T.36,37
Braſilian Sparrow 253
Reed-Sparrow 269
Water-Sparrow 388
Sparrows of ſeveral ſorts 250,251,&c. T.45
Spipoletta 209
Spipola 210
Spoon-bill 288. T.52
Squaiotta, a kind of Heron 281. T.50
Stannel or Keſtrel 84. T.5
Stare or Starling 196. T.37
Indian Stare Ibid. T.38
Stella T.32
Stint 305. T.58
Stock Dove 185. T.35
Stonechatter or Stone-Smich 235. T.41
Stopparola 210
Stork 286. T.52
Black Stork Ibid. T.52
American Stork 287
Stormſinch 395
Strapazino 233
Sula 331
Sw llow 211. T.39
Houſe-Swallow 212. T.39
Sea-Swallow 214, 352. T.68
American Swallow 214
China Swallow 215
Swan tame 355. T.69
Wild 356. T.69
Swift or black Martin 214. T.14
Swine-pipe, vide *Redwing.*

T

TAmatia 190. T.59
Tangara 243,244
Tarrock 346. T.68
Teal 377. T.74
Summer Teal 378. T.76
Teitei 266
Tempatlahoac 387
Tern 351
Thiſtle-ſinch, vide *Goldfinch.*
Throſtle or Mavis 188. T 37
Thruſh 186,&c. T.37,37
Song-Thruſh, vide *Mavis.*
Wine Thruſh, vide *Redwing.*
Tijegnacu 218
Tijegnacu paroara 256. T.41,45
Tijepiranga 251
Titmouſe 240. T.43
Marſh Titmouſe 241. T.43
Blue Titmouſe 242. T.43
Creſted Titmouſe Ibid. T.43
Long-tail'd Titmouſe Ibid. T.43
Wood Titmouſe 243
Totano 299
Tlauchechul 289
Tleuquecholtototl 390
Topan 127. T.17
Totoqueſtal 392
Toucan, or Braſilian Pie 128. T.20
Tringa 300. T.56
Trochilus 321. T.60
Tropic bird 331. T.75
Tuputa 386
Turkey 159. T.27
Turn-ſtone 311

Turtle-

Turtle-dove 183. T.35
Indian Turtle 184. T.35
Leaſt Barbados Turtle Ibid. T.36
Sea Turtle 326
Tzinitzian 392

V

Verminous bird or Tuputa 386
Urubitinga 64
Urubu 68. T.3
Urutaurana, vide *creſted Eagle* 63. T.4
Vultures of ſeveral ſorts 66. T.4
Braſilian Vulture 68. T.3

W

Wagel 349
Wagtail white 237. T.42
Yellow 238. T.68
Grey Ibid.
Wall-creeper 143. T.23
Water-hens ſeveral ſorts 312,313,&c. T.58
Wheat-ear, i. e. *Fallow Smich* 233. T.41
Whewer, vide *Wigeon* 375
Whimbrel 294
Whin-chat 234
White game 176. T.32
White Nun 337
White-tail 233. T.41
White-throat 236
Wigeon 375. T.72
Willow-bird 217
Winter-mew 250
Witwall 137,198. T.36,38
Woodcock 289. T.53
Woodpecker great black 135. T.21
Green Ibid. T.21
Greater ſpotted 137. T.21
Leſſer ſpotted 138. T.21
Mexican 390
Perſian 141
Wood-Pigeon T.35
Wren 229. T.42
Golden-crown'd Wren 227. T.42
Wren without a creſt 228. T.42
Wryneck 138. T.22

X

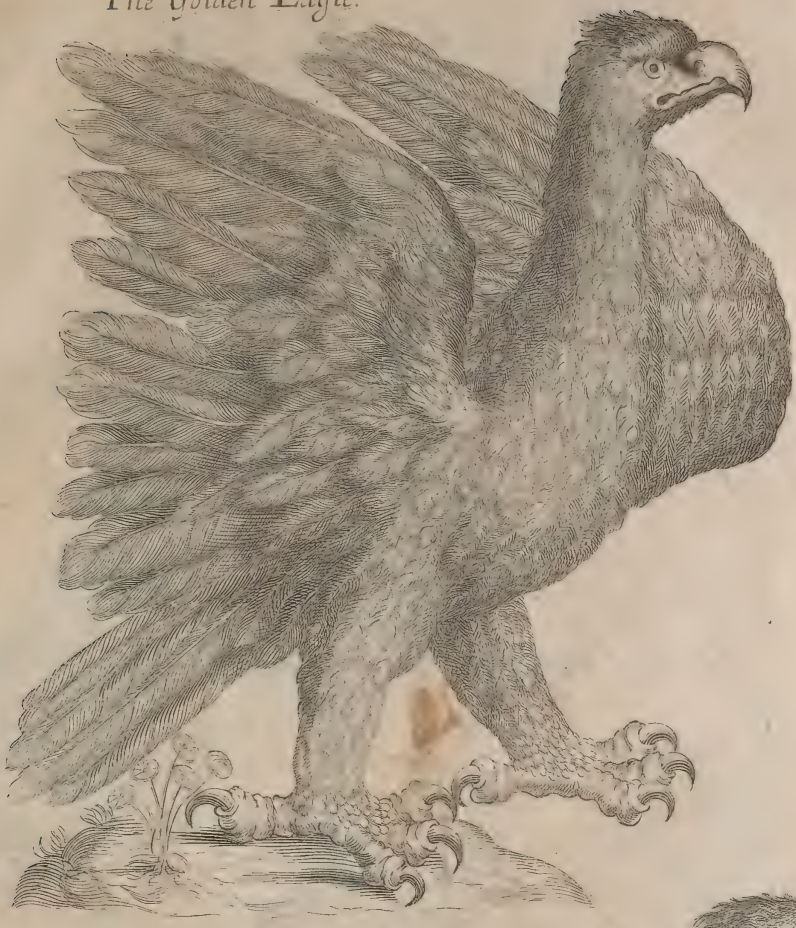
Xochitenacatl 386
Xomotl 395

Y

Yayauhquitototl. 386
Yarwhelp or Yarwip 292. T.53
Yellowhammer 268. T.40
Ytactzon Yayauhqui 387
Yzquauhtli 388

FINIS.

Chrysaëtos Gesneri.
The Golden Eagle.



Haliaetus Clusij Ossifraga Aldrov.
The Sea Eagle or Osprey.

Morphno congener Aldrov.

Melanaetus seu Aquila Valeria Aldrov.
The Black Eagle.

Accipiter Palumbarius
a Goshawk.

Vrubu Marggrau.

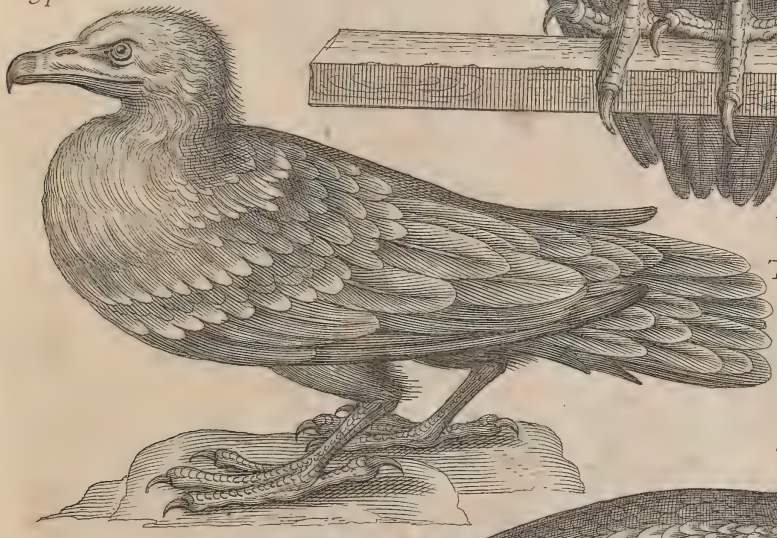
Æsalon
a Merlin.

Buteo Apivorus.
The Honey Buzzard.

Vultur.
The Vulture.

Vrubaurcna Margr.

Gypaetos Aldr.



Vultur aureus.
The golden Vulture.

Tinnunculus
The Kestrell

Accipiter fringillarius
The Sparrow Hawk

Accipiter Palumbarius
The Goshawk.

Balbus ardus Anglorum. Osprey!
Anataria siu Morphnos Gesri.
The Bald Buzzard.

Buteo. The Buzzard.

Milvus caudâ furcipatâ
The Kite or Glead.

Milvus æruginosus Aldrov.
The moor Buzzard
Pygargus
The Hen harrier
Subbuteo Aldr
The Hobby.

Falco peregrinus.
The Peregrine or haggard Falcon.

Gyrfalco.
The Gerfalcon.

Falco montanus secundus
Aldrov.
The mountain Falcon:
f. 2.
Falco ruber Indicus.
prior Aldrov:
The Red Indian
Falcon.
Caracara Marcgrav

Lanius cinereus major
The greater Butcher bird.
Collurio Seu Lanius minor
The lesser Butcher bird
Cuculus
The Cuckow

Birds of Paradise of Severall Sorts.

Manucodiata
1.a Aldrov.
The Bird of
Paradise.

Manucodiata
2.a Aldr.

Manucodiata
Wormij

Manucodiata
altera Nieremb:

Bubo.
The Great Eagle
Owle.
Otus sive Asio.
The Horn-Owle.
Scops Aldrov.
The little Horn Owle.
F. H. Van. Houe. Sculp:

Aluco.
Ulula
The Grey Owle
Noctua minima.
Noctua.

Strix Aldrov.
Brown or Screech Owl.

Caprimulgus
The Goatsucker
or Churn Owl.

Guiraquerea Marg-
grav.

Ibijau sive Noitibo ma-
jor & minor Marggr.

Hirundo apus
The black Martin or Swift.

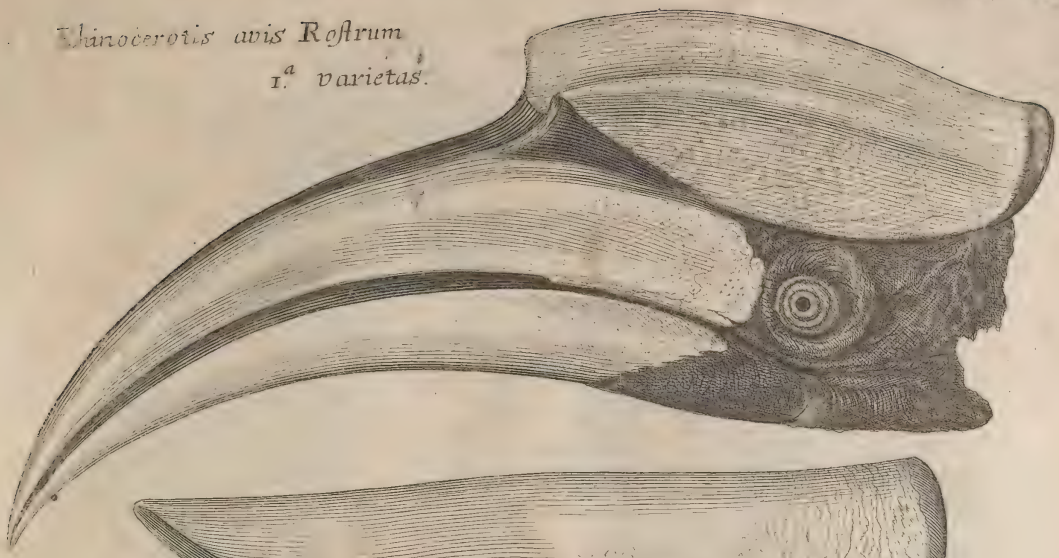
Psittacus albus cristatus.
The white crested Parrot.
Psittacus max. cyanocroceus Ald.
The Macao.

Psittacus mediæ magnitudinis.
A common Parrot.

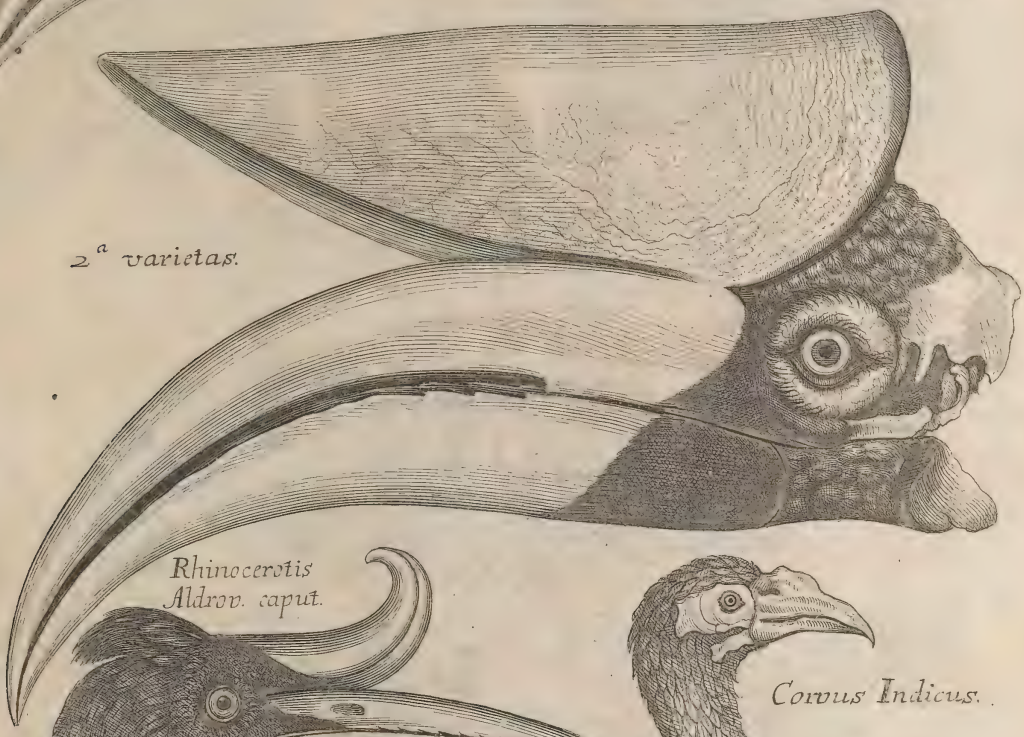
Psittacus
A Parrot.

Psittacus minor macrourus.
A Perocheeto.

Rhinocerotis avis Rostrum
1.ª varietas.



2.ª varietas.



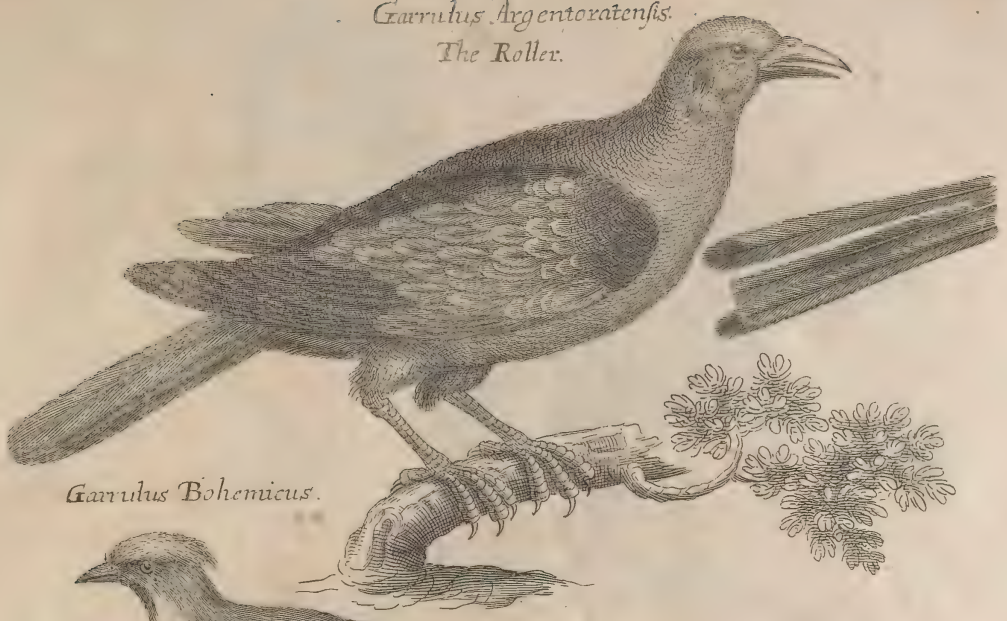
Rhinocerotis
Aldrov. caput.

Corvus Indicus.

Corvus. The Raven.
Cornix nigra. The Crow.
Cornix frugilega.
The Rook.
Cornix cinerea.
The Royston Crow.

Graculus seu Monedula
The Jackdaw
Coracias Aldrov
The Cornish Chough
Pica varia seu caudata
The Magpie or Pianet.
Pica glandaria.
The Jay.

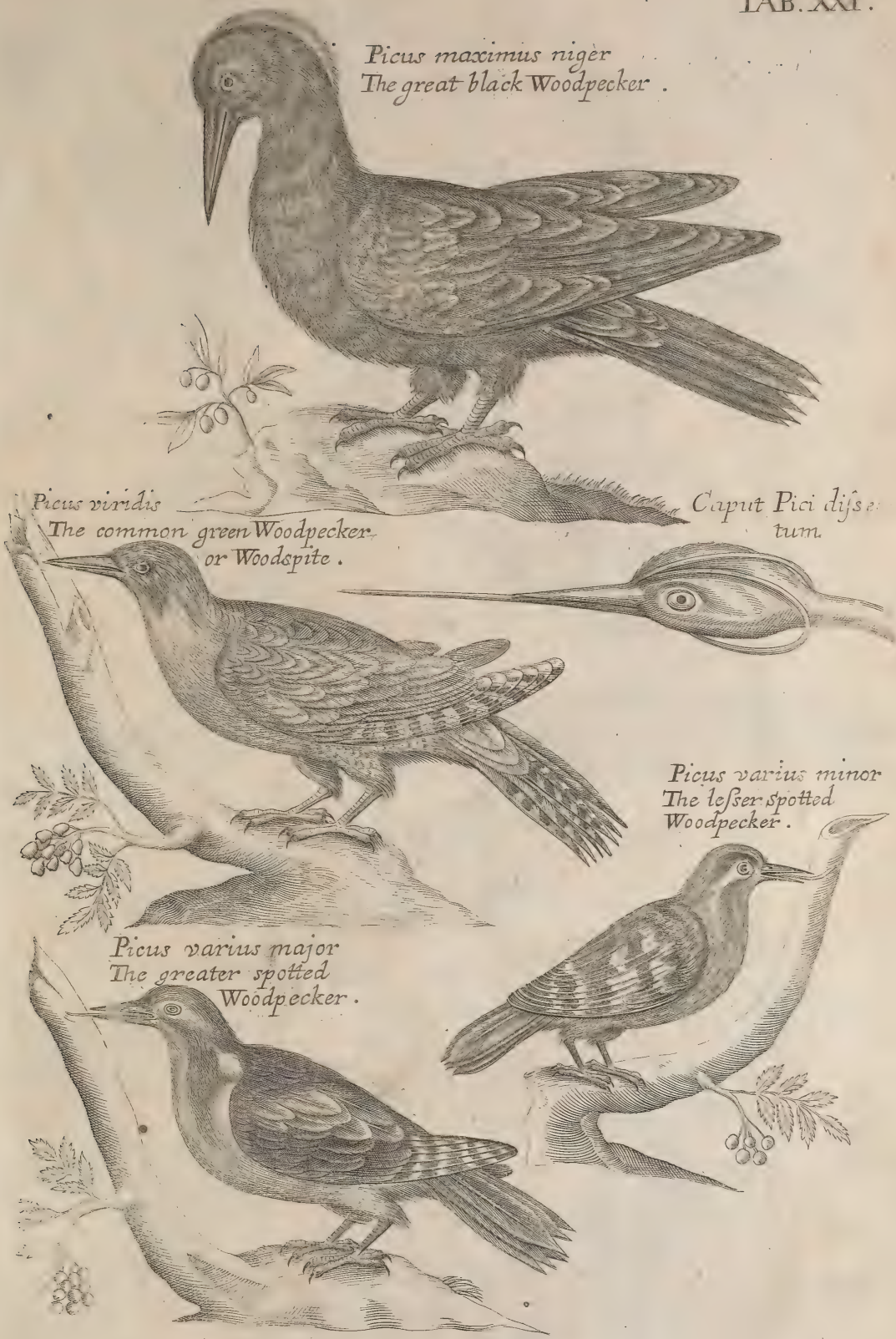
Garrulus Argentoratensis.
The Roller.

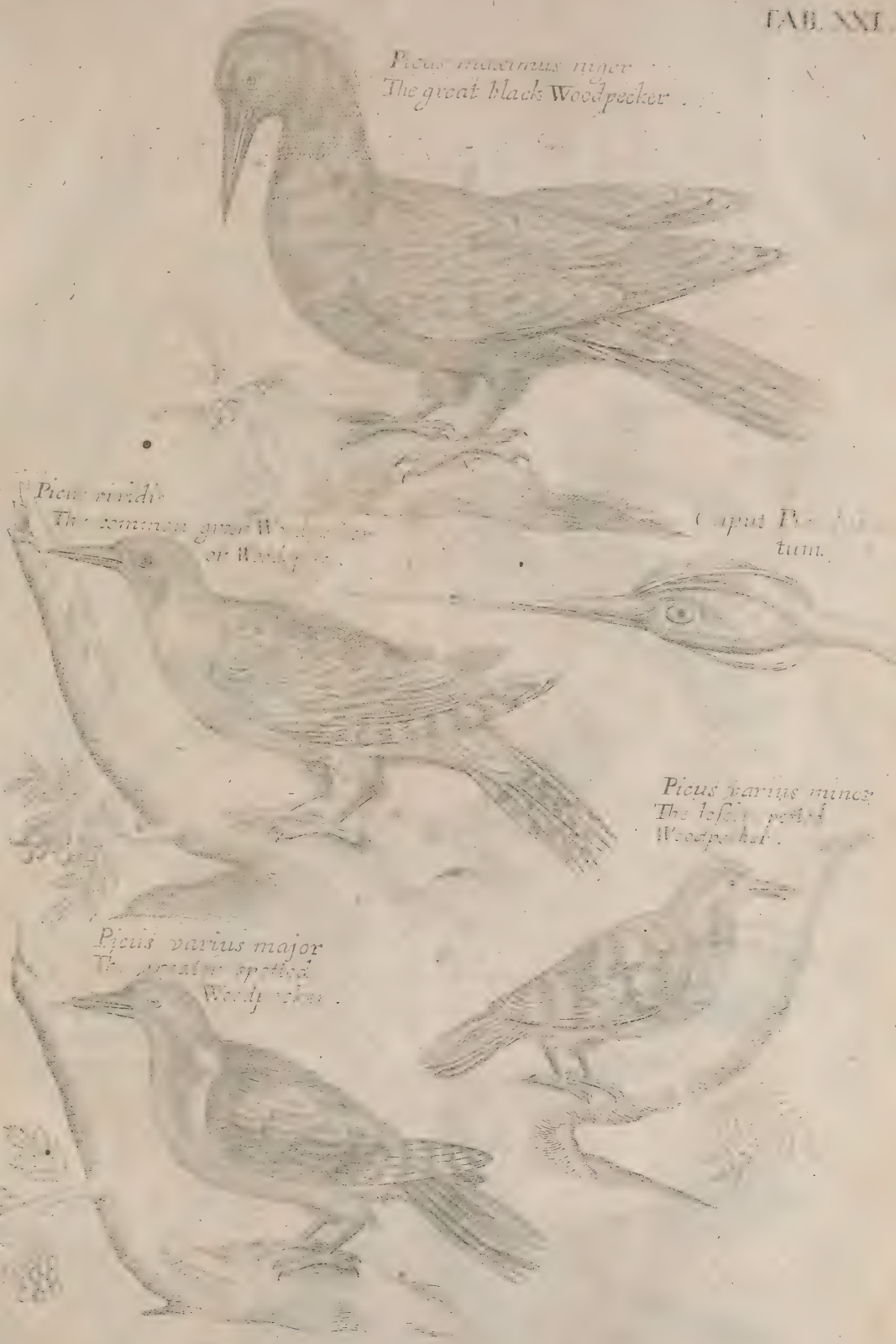


Garrulus Bohemicus.

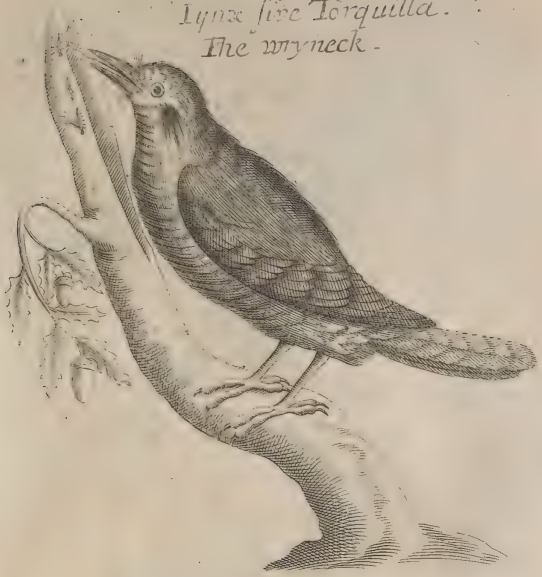
Pica Brasiliensis Toucan.

Carycatactes.


Picus maximus niger
The great black Woodpecker.
Picus viridis
The common green Woodpecker
or Woodspite.
Caput Pici dissectum
Picus varius minor
The lesser spotted
Woodpecker.
Picus varius major
The greater spotted
Woodpecker.

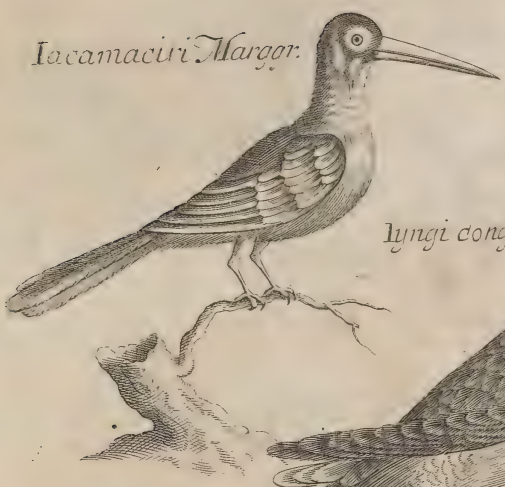

Picus maximus niger
The great black Woodpecker
Picus viridis
Caput Pi
tum.
Picus varius minor
Picus varius major

Iynx sive Torquilla.
The wryneck.

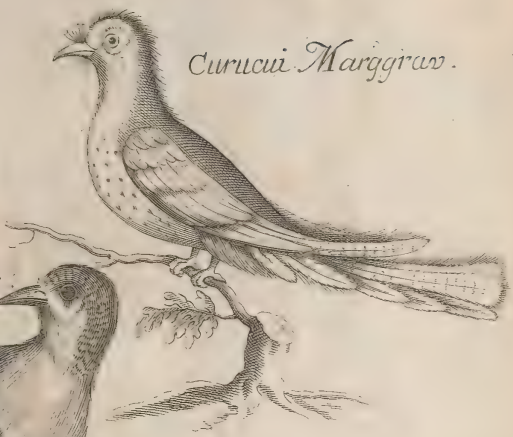


Ipecu Marggrav.

Iacamaciri Marggr.



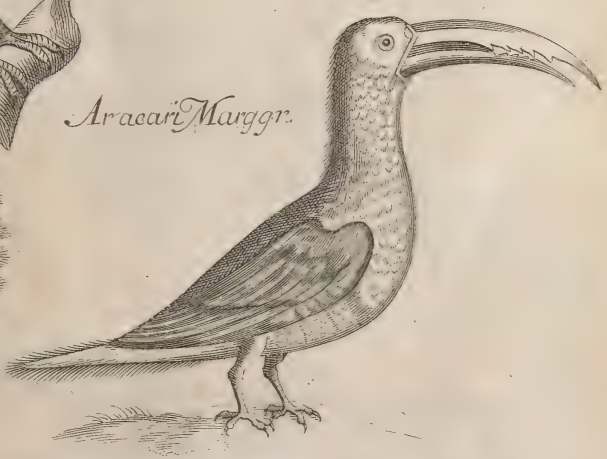
Curucui Marggrav.



Iyngi congener.

Guira acangatara.
Marggrav.

Aracari Marggr.



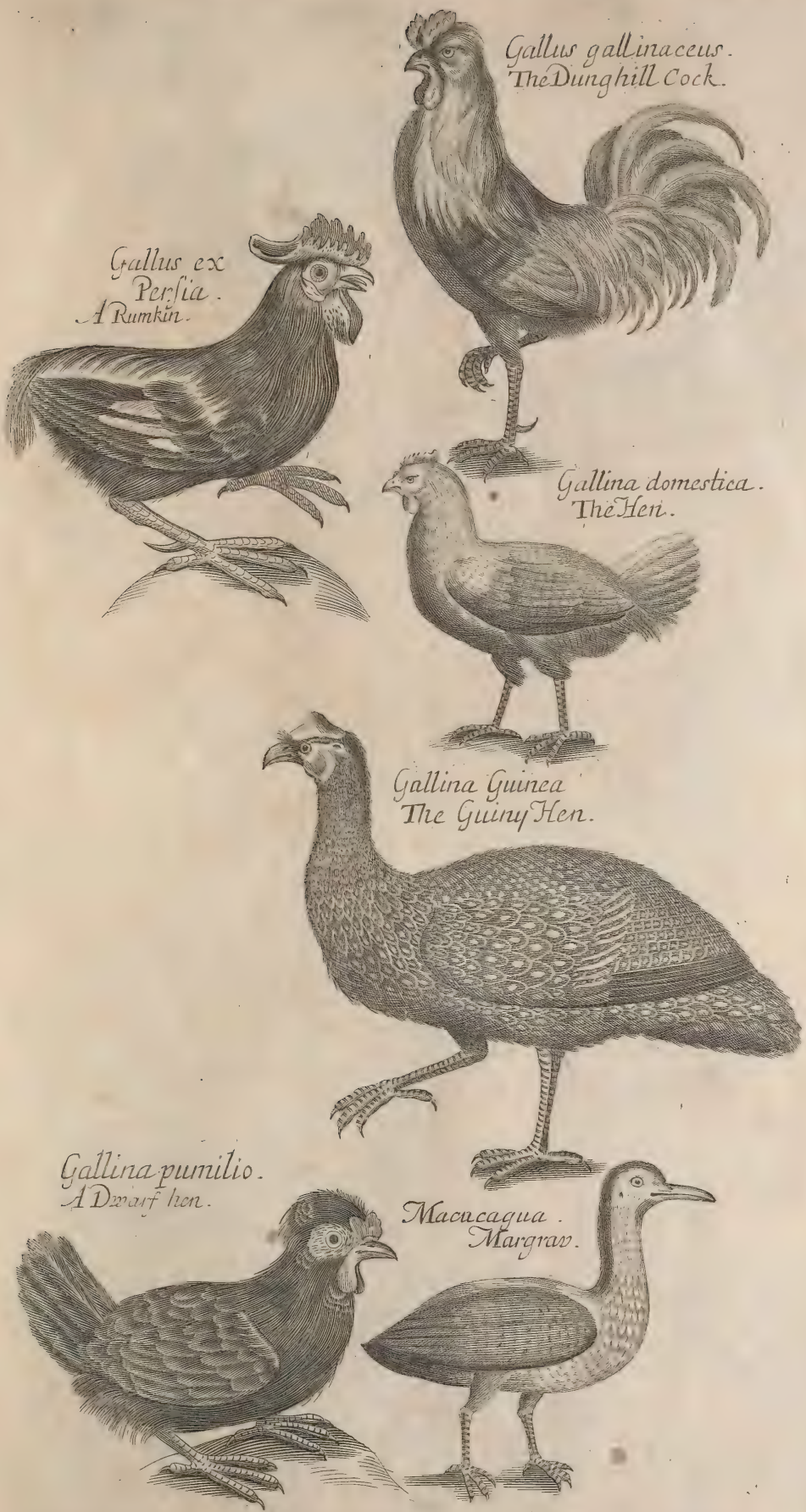
F. H. Van Hove Sc.

Guinea-worm
Marygraw.
Iapu seu Iupujuba
Marc:
Sitta seu Picus cinereus
The Nuthatch.
Ficedula cannabina.
Picus murarius Aldrov.
The wall-creeper or Spider
catcher.
Certhia
The Ox-ey Creeper.

Merula aquatica
The Water Ouzell.
Upupa
The Hoopoe
Ispida.
The Kingfisher.
Merops.
The Beeeater.
. quainumbi.
Jaguacati quacu.

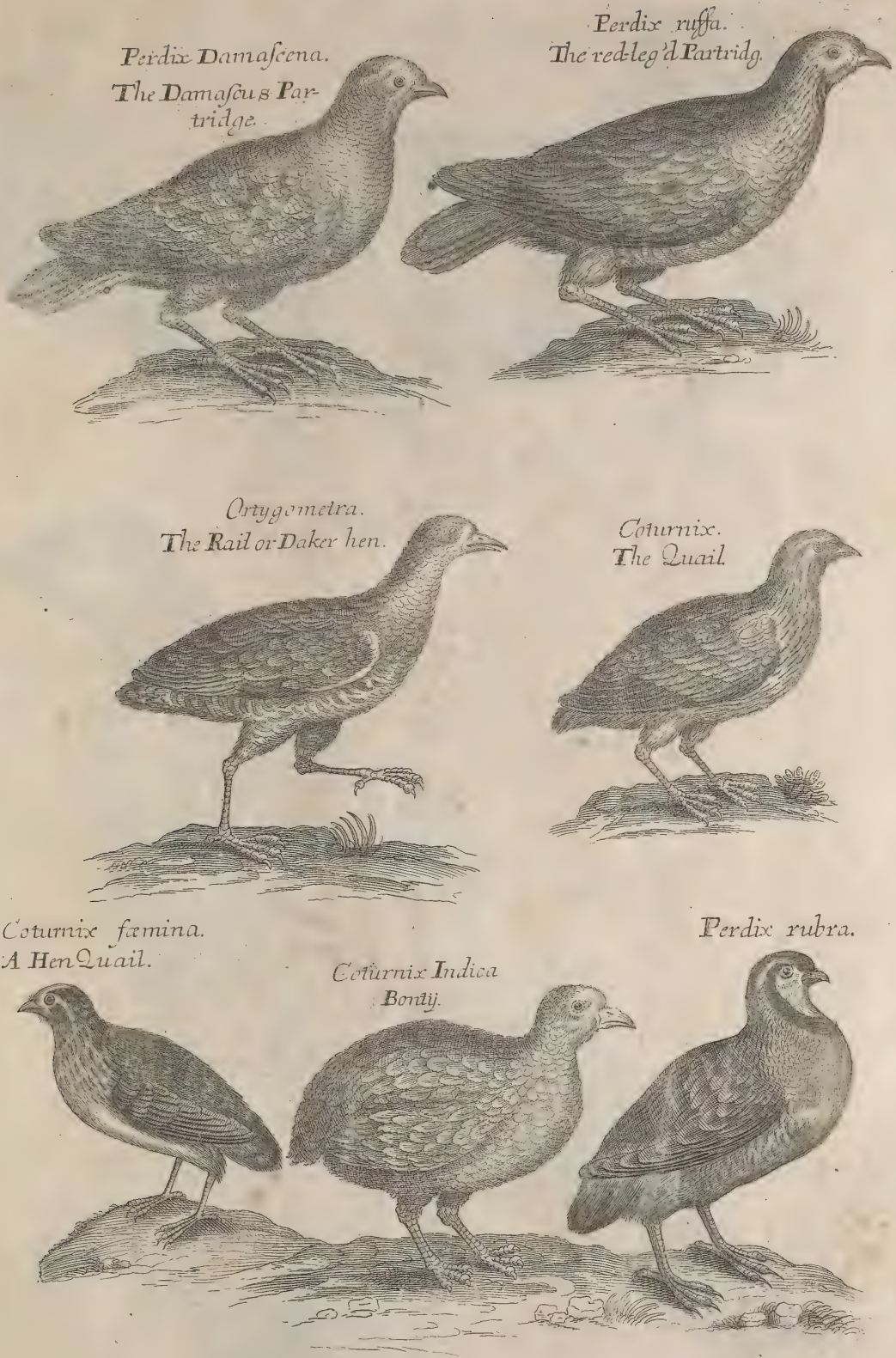
Struthiocamelus
The Ostrich.

Emeu
The Cassowary.


Gallus gallinaceus.
The Dunghill Cock.
Gallus ex
Persia.
A Rumkin.
Gallina domestica.
The Hen.
Gallina Guinea
The Guiny Hen.
Gallina pumilio.
A Dwarf hen.
Macucagua.
Margrav.

Dodo.
Pavo The Peacock.
Gallo pavo. The Turkey.
Gallina Africana.

Phasianus mas
A Cock Pheasant.
Witu.
Wituporangæ caput.
Jacupema
Perdix cinerea
The Comon Partridge


Perdix Damascena.
The Damascus Partridge.
Perdix rubra.
The red-leg'd Partridg.
Ortygometra.
The Rail or Daker hen.
Coturnix.
The Quail.
Coturnix fœmina.
A Hen Quail.
Coturnix Indica
Bontij.
Perdix rubra.

Urogallus Seu Tetrix
major mas. The Cock
of the Wood or mountain

Urogallus Famina
The Hen of ye wood or
mountain.

Attagen Aldrov.
Urogallus sive
Tetrao minor
The Black game
Heath cock or
Grows
Francolinus
Olinæ
Gallina corylorum.
The Hasel hen

Lagopus avis.
Otis sive Tarda avis.
The Bustard.
Stella avis Aldrov.

Columba domestica major.
The great house Dove or Pigeon.

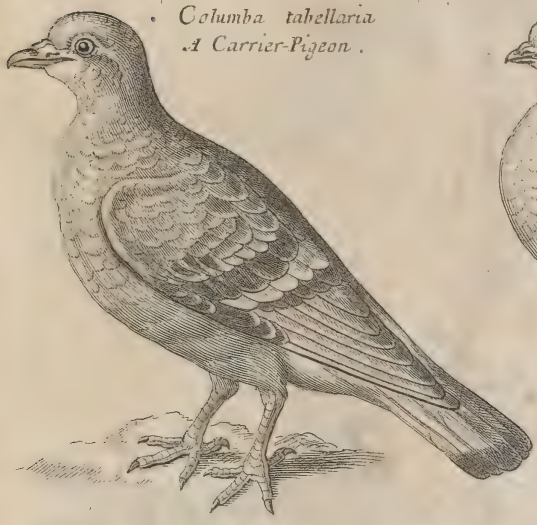
Columba hirsutis pedibus.
A rough foote d Dove.

Columba Cypria cucullata.
A Iacobine Pigeon.

Columba Turcica seu Persica.
A Persian or
Turkey Pigeon.

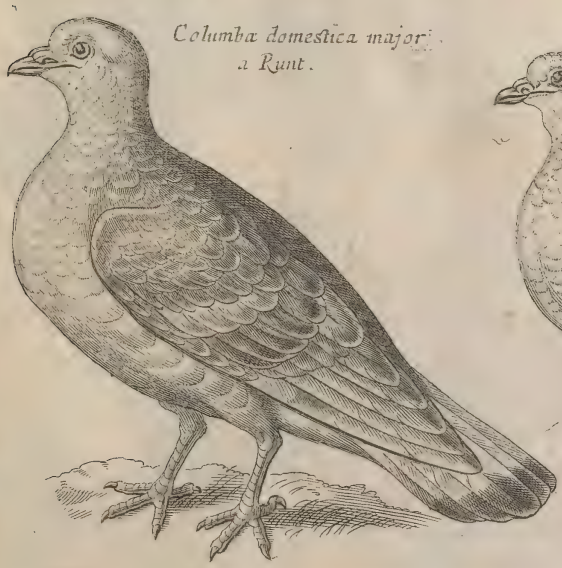
Columba gutturosa
A Cropper dove.

Columba hirsutis pedibus
A rough-footed Dove.



Columba tabellaria
A Carrier-Pigeon.

Columba Numidica seu Cypria
a Barbary Pigeon.



Columba domestica major
a Runt.

Columba tremula laticauda
A broad-tailed Shaker.

Turtur
The Turtle Dove
Turtur Indicus
Aldrop
The Indian Turtle
Palumbus torquatus
The Ring Dove
Oenas Aldr.
The Wood Pigeon

Turtur minimus
Barbadenſis.
The leaſt Barbados Turtle
Turdus viſcivorus
The Miſſel-bird.
Merula
The Black-bird.
Paſſer
Solitarius.
The Solita-
ry Sparrow
Merula
Saxatilis.
The greater
Redſtart
Galbula juvenis.

Turdus simpliciter dictus.
The Mavis or
Song Thrush.
Turdus pilaris.
The Fieldfare.
Merula.
The Blackbird.
Passer solitarius
mas Aldrov.
Sturnus.
The Stare or Starling.
Merula torquata.
The Ring Ouzell.

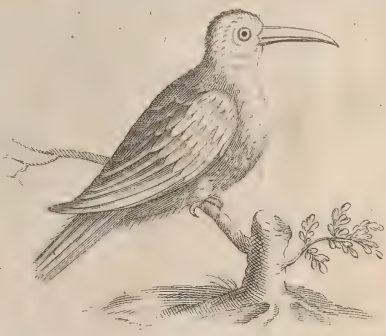
Merula Saxatilis
Aldrov.
The Rock Ouzell.

Sturnus Indicus
Bontij.
The Indian Stare

Guira punga.

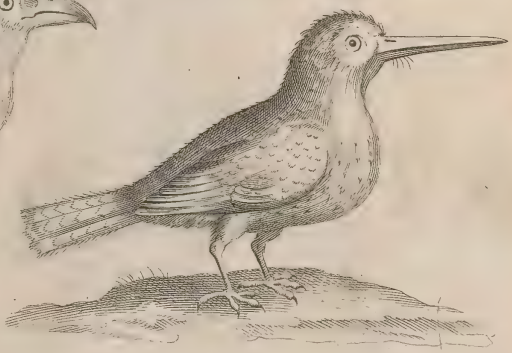
Oriolus Seu
Galbula.

Pitangaguacu Marggr.



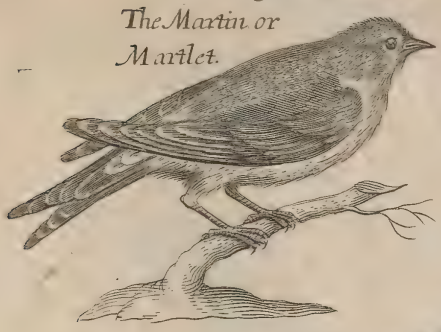
Atinga guacu mucu Marg-
grav.

Matuitui Marggr

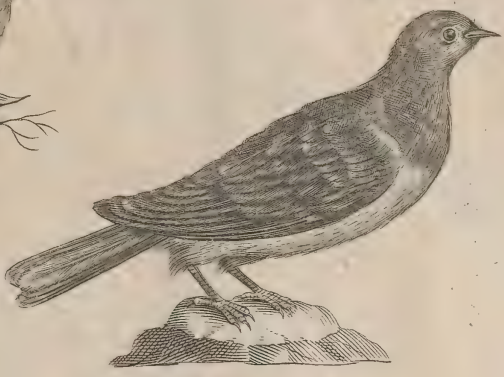


Hirundo apus.
The black Martin
or Swift.

Hirundo domestica.
The common house Swallow.

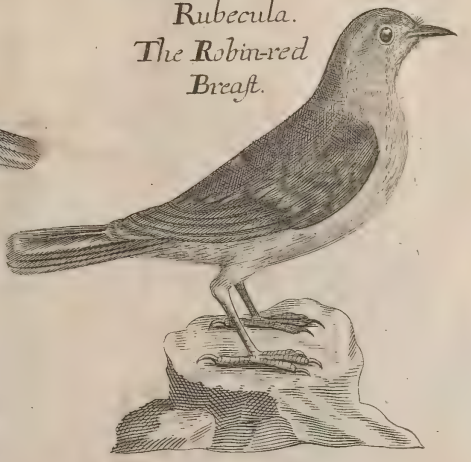


Hirundo agrestis seu rustica.
The Martin or
Marlet.



Hirundo riparia.
The Bank Martin.

Ruticilla.
The Redstart.



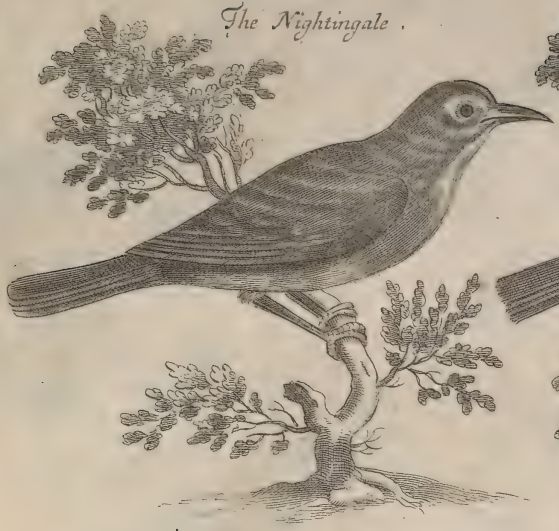
Rubecula.
The Robin-red
Breast.

Hirundo domestica

W Faithorne Sc.

Emberiza Flava
The Yellow hammer
Emberiza alba
The Bunting
Hortulanus
Alauda vulgaris
The Comon Lark.
Tottovilla. Olinæ
The wood Lark.
Alauda cristata major
The crested Lark.

Luscinia
The Nightingale.



Atricapilla
The Blackcap.

Tijeguacuparoara
Marggr.

Oenanthe sive Vitiflora
The white-tail.

Muscipeta 3ª
Oenanthe tertia.
The Stone-
chatter

Guiraguacuberaba.

Roth beinlein.
Baltner.

Motacilla alba
The white water wag=
tail.

Regulus cristatus.
The copped wren.

Iamacaii Marg
grav.

Passer troglodytes.
The wren.

Regulus non cristatus.

Ouriſsia ſive Tomineis.

Mergus Ameri=
=canus.

Guainumbi
The Humming
bird

Parus major seu Fringillago
The Great Titmouse or
Ox-eye
Parus ater
The Colemouse.
Parus palustris
The Marsh Titmouse.
Parus cæruleus The blew
Titmouse or Tun.
Parus cristatus
The crested Titmouse
Parus caudatus
The long tail'd Titmouse

Coccothraustes.
The Grosbeak or Harv=finch.

Coccothraustes Indica cristata.
The Virginian Nightingale.

Chloris.
The Greenfinch.

Rubicilla.
The Bullfinch.

Loxia.
The Crosse=bill.

Passer.
A Sparrow.

... sculp.

Paſſer Stultus.
Aln.
The Foolish
Sparrow

Paſſer montanus.
The mountain Sparrow

Paſſer Indicus
macrourus Aldr.
The Long-tailed Indian
Sparrow.

Fringilla
The Chaffinch.

Montifringilla
The Brambling.

Tijeguacu paroara.

Carduelis
The Gouldfinch
Linaria
The Linnet
Linaria rubra.
The Red Linnet.
Ligurinus.
The Siskin.
Passer Canariensis
The Canary Bird.
Avicula Anadavadensis.
The Anadavad Bird.
Citrinella.
Serinus Gesn.

Jabiru Marggrau.
Jabirú guacu
Scurvogell
Belgarum.
Anhima Marg.
grav.
Jabiru roſtrum Ibidis falsò dictum

Grus
The Crane
a
Aspera arteria in
sterni ingressa &
reflexa
b
a. Caput
b. divaricatio
Grus Balearica

Ardea cinerea major
The Common Heron.

Ibis Bellon.

Ardea alba major.
The Greate white Heron.

Ardea cinerea minor
The Night-raven.

Ardea haematopus.
Aldr.

Ardea Stellaris.
The Bittern.

Ardea congener

Squaiotta Aldr.

Soco
Marggravij

Cocoi
Marggravij.

Cariama Brasili-
ensis Marg.

Ardeola Brasili-
ensis Marg.

Fulica Major
The greater Coot.

Ciconia alba
The Stork.

Ciconia nigra
The Black Stork.

Platea seu Albardeola.
The Spoon bill.

Ardea stellaris.
The Bittern.

Guaranna
Scolopax.
The Woodcock.
Totanus.
The Godwit
Gallinago minor
The Snipe.
Fedoa altera
The Yarwhelp

Arquata.
The Curlew.
Falcinellus Aldr.
Curicaca.
Himantopus
Guara

Glottis seu Pluvialis major Ald.
Hæmatopus. Bellonij.
Gallinula erythropus major. The Redshank.
Morinellus. The Dottrell.
Tringa minor. The Sandpiper.
Tringa.

Callidrys
nigra.
The Knot.
Rotknussel.
an Avis pugnax
fœm.
Avis pugnax mas
A Ruffe
Cinclus Bellonij
Matkneltzell.
Avis pugnax fœmina.
The Reeve.

Pluvialis viridis.
The green Plover.

Vannellus.
The Lapwing.

Pluvialis cinerea.
The grey Plover.

Morinellus
The Dottrell

Charadrius alter.

Charadrius.
The Sea Lark.

Morinellus marinus
The Sea-Dottrell.

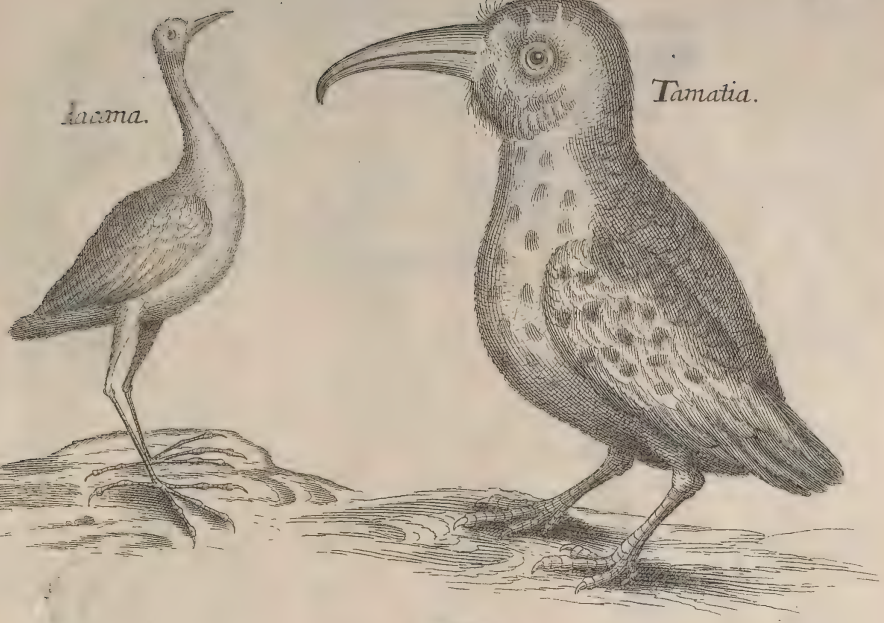
Oedicnemus The
Stone Curlew

Iunco avis.

Gallinula chloropus
The Waterhen or
more-hen.

Poliopus Gallinula
minor.

Rallus aquati-
cus.
The Water-Rail.



Jacana.

Tamatia.

Colymbus major
The greater Loon or Diuer

Fulica
The Coot.

Mergulus melanoleucos
rostro acuto brevi.

Phœnicopterus
The Flammant

Trochilus Aldrov.

Recurvirostra Avosetta
Italorum.

Colymbus cristatus.
The crested Diver or Loon.

Colymbus maximus caudatus.
The greatest Loon.

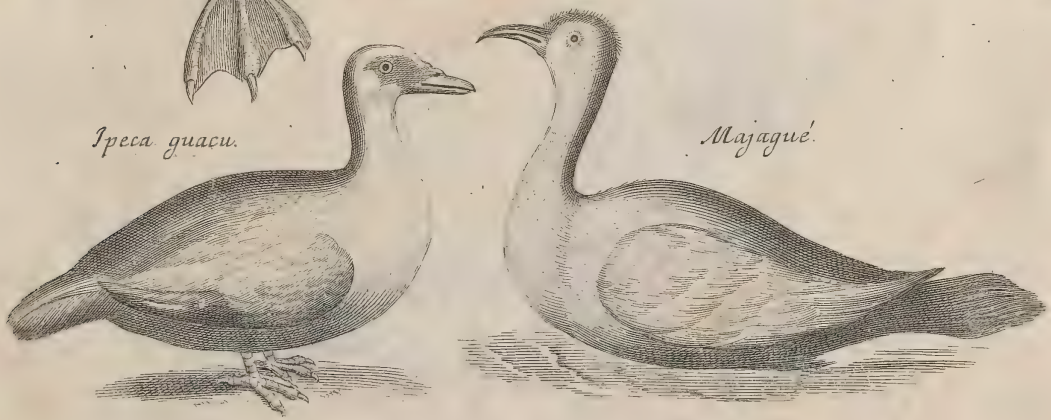
Colymbus minor.
The Didapper or Dobchick.

Colymbus seu Podiripes cinereus.
The ash-coloured Loon.

Colymbus maximus stellatus
The greateſt Speckled Diver or Loon

Os cruris
Colymbi
The Leg bone
of a Diver

Colymbus Arcticus Lumme
dictus Worm.



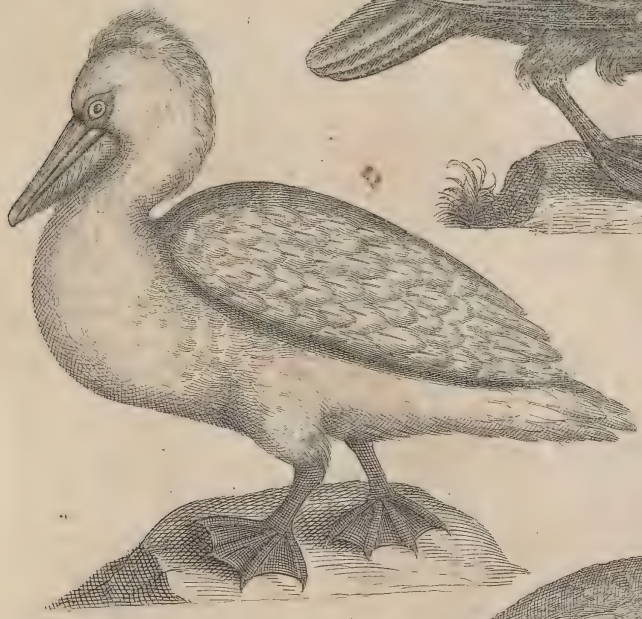
Ipeca guacu.

Majaguè.

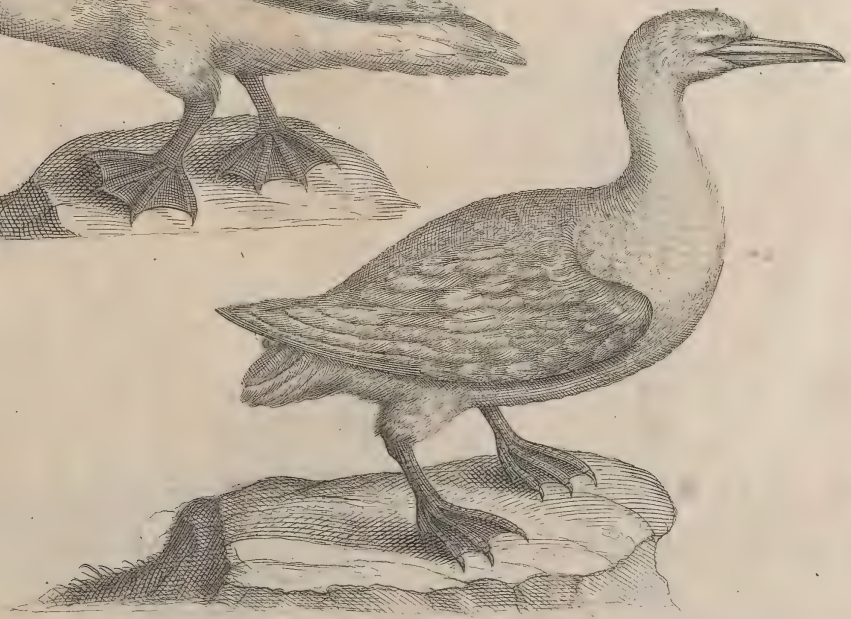
Corvus aquaticus.
The Cormorant.

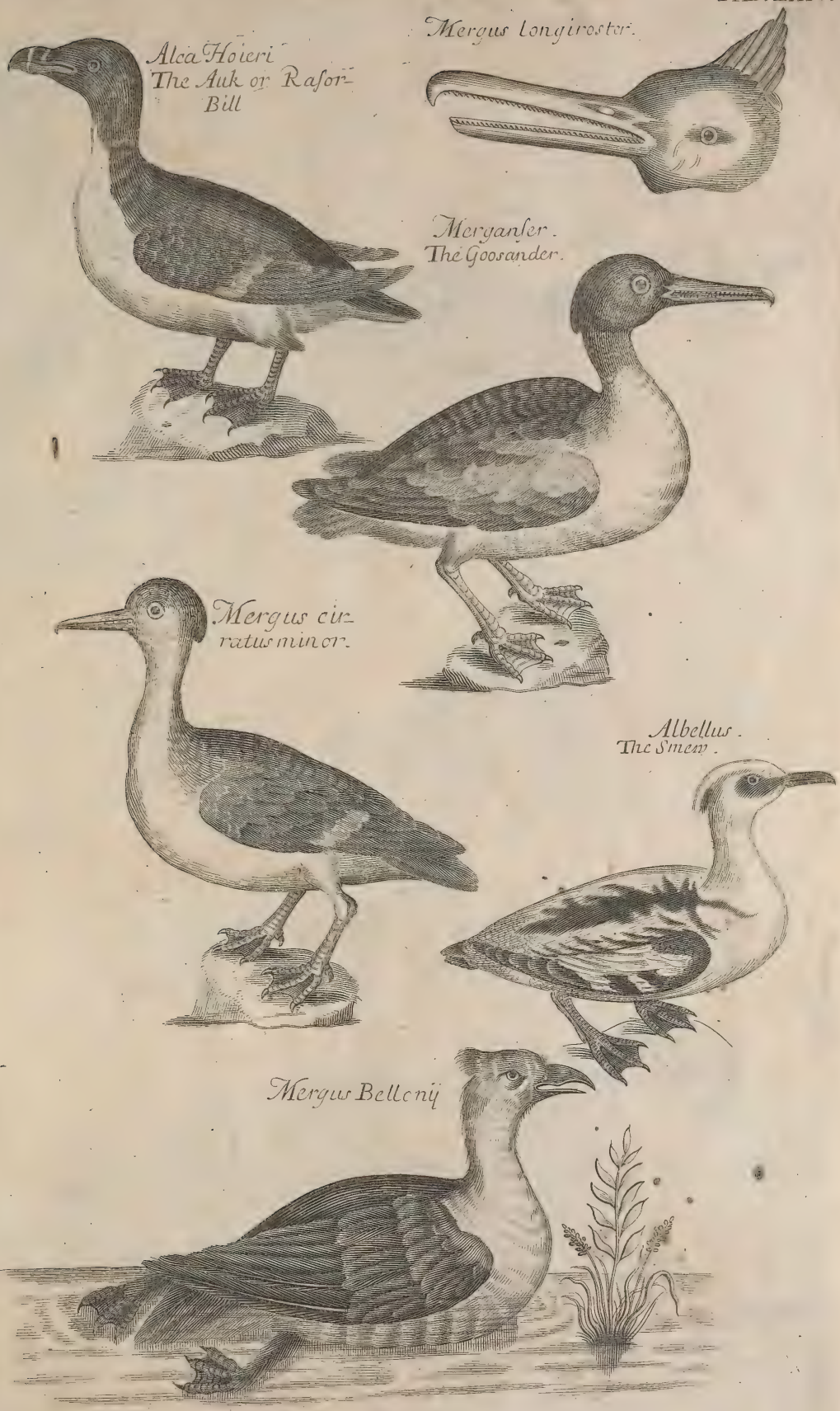
Graculus palmipes.
The Shagge.

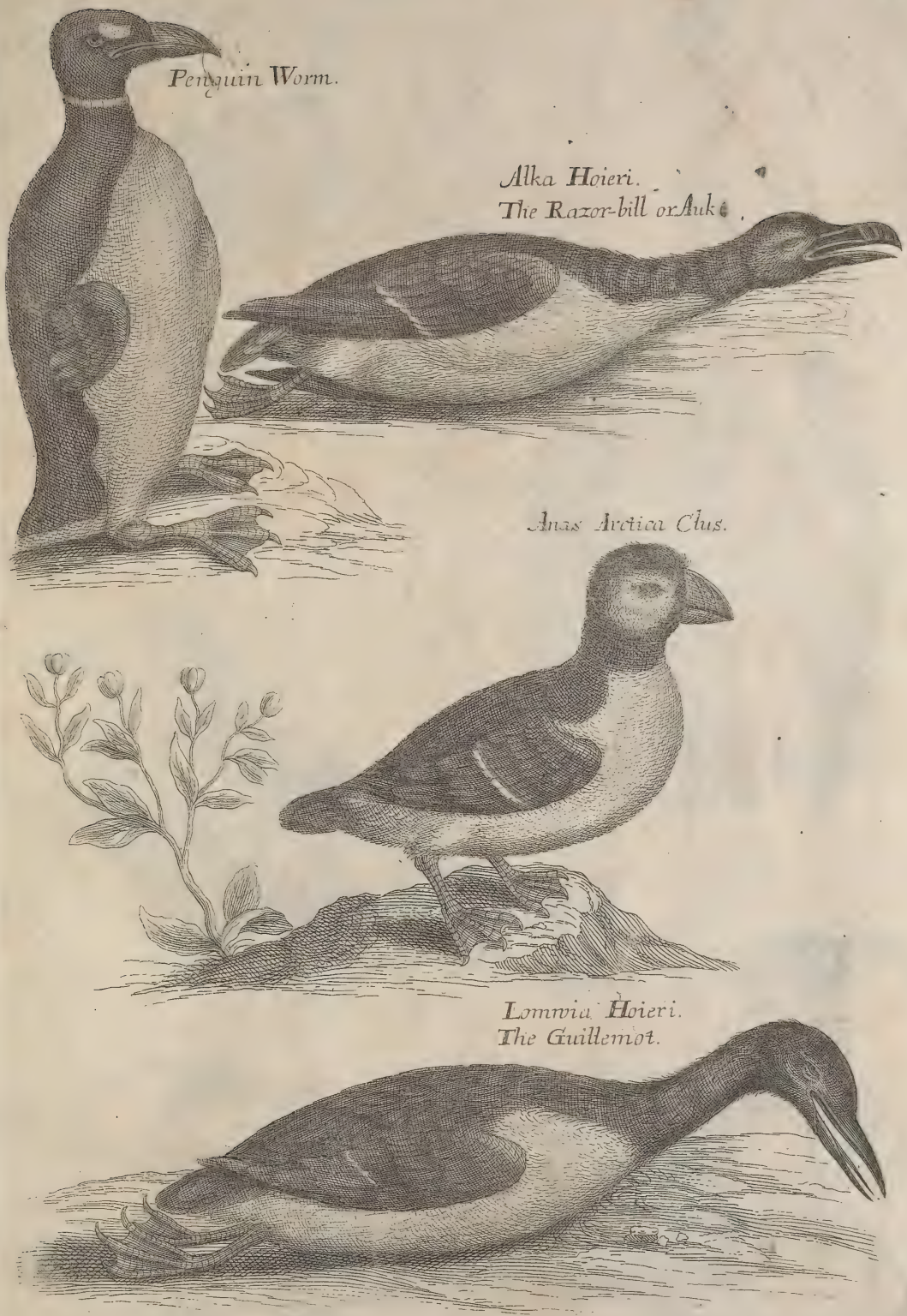
Onocrotalus.
The Peleçane.



Anſer Baſſanus.
The Soland Gooſe.

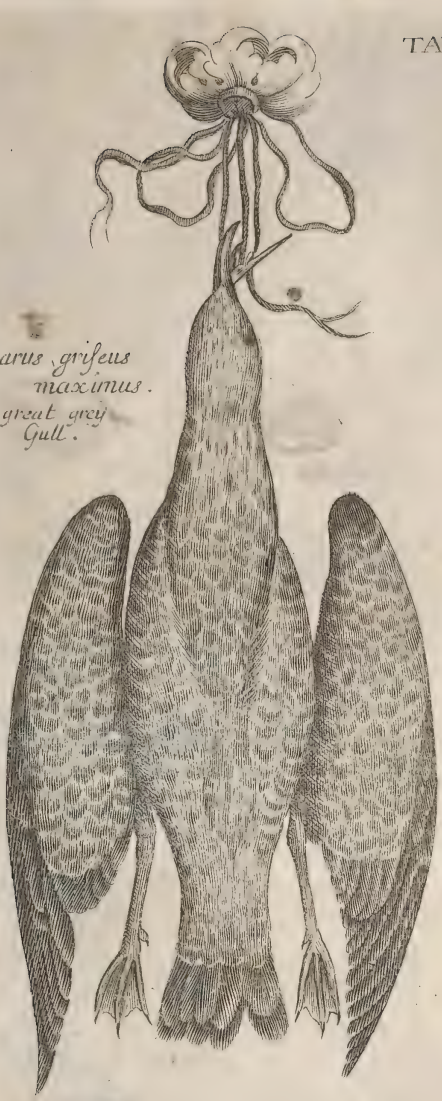



Alca Hoieri
The Auk or Rasor-
Bill
Mergus longirostor.
Merganser.
The Goosander.
Mergus cir-
ratus minor.
Albellus.
The Smew.
Mergus Belloni

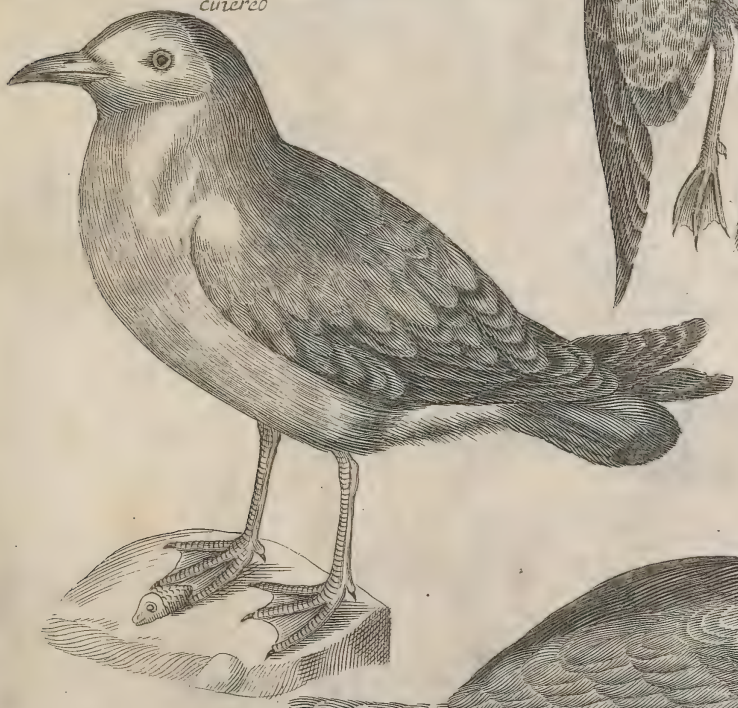

Penguin Worm.
Alka Hoieri.
The Razor-bill or Auk.
Anas Arctica Clus.
Lomvia Hoieri.
The Guillemot.

Larus hibernus.
The Coddy moddy.

Larus griseus
maximus.
The great grey
Gull.



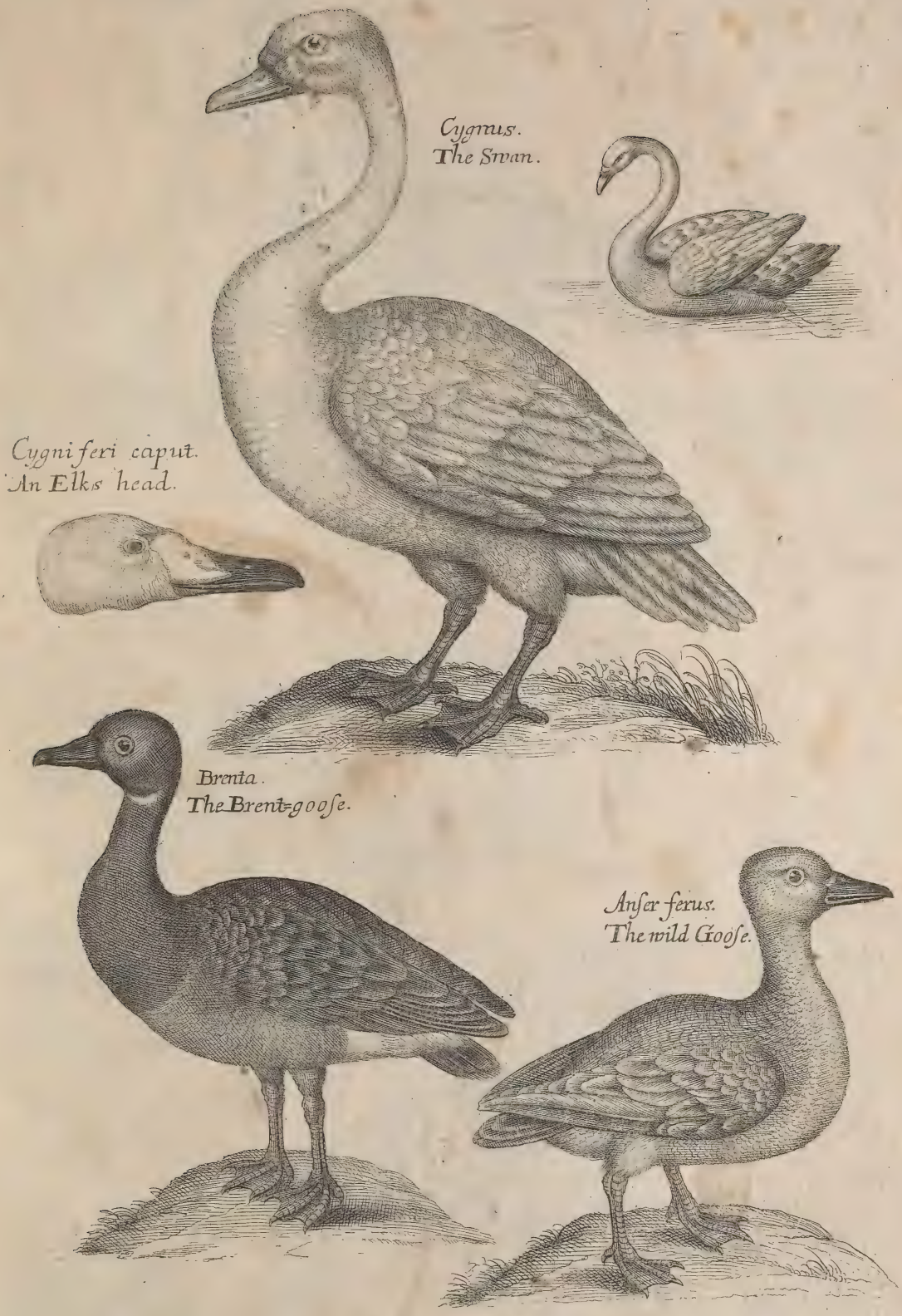
Larus albo-cinereus torque
cinereo



Larus cinereus rostro &
pedibus rubris The Pewit.

Catarracta Aldrov.
Cepphus Aldrov.
Larus major cinereus Balt.
Skua Hoieri.

Hirundo marina major
The greater Sea Swallow
Larus nigro-cinereus
palustris.
Motacilla flava
The yellow water wagtail.
Larus niger
The Scare-crow
Larus cinereus Bellon.
The Tarrock.
Hirundo marina minor.
The Lesser Sea Swallow.
Larus niger fi-
dipes.


Cygnus.
The Swan.
Cygni feri caput.
An Elks head.
Brenta.
The Brent-goose.
Anser ferus.
The wild Goose.

Anser Canadensis
The Canada Goose

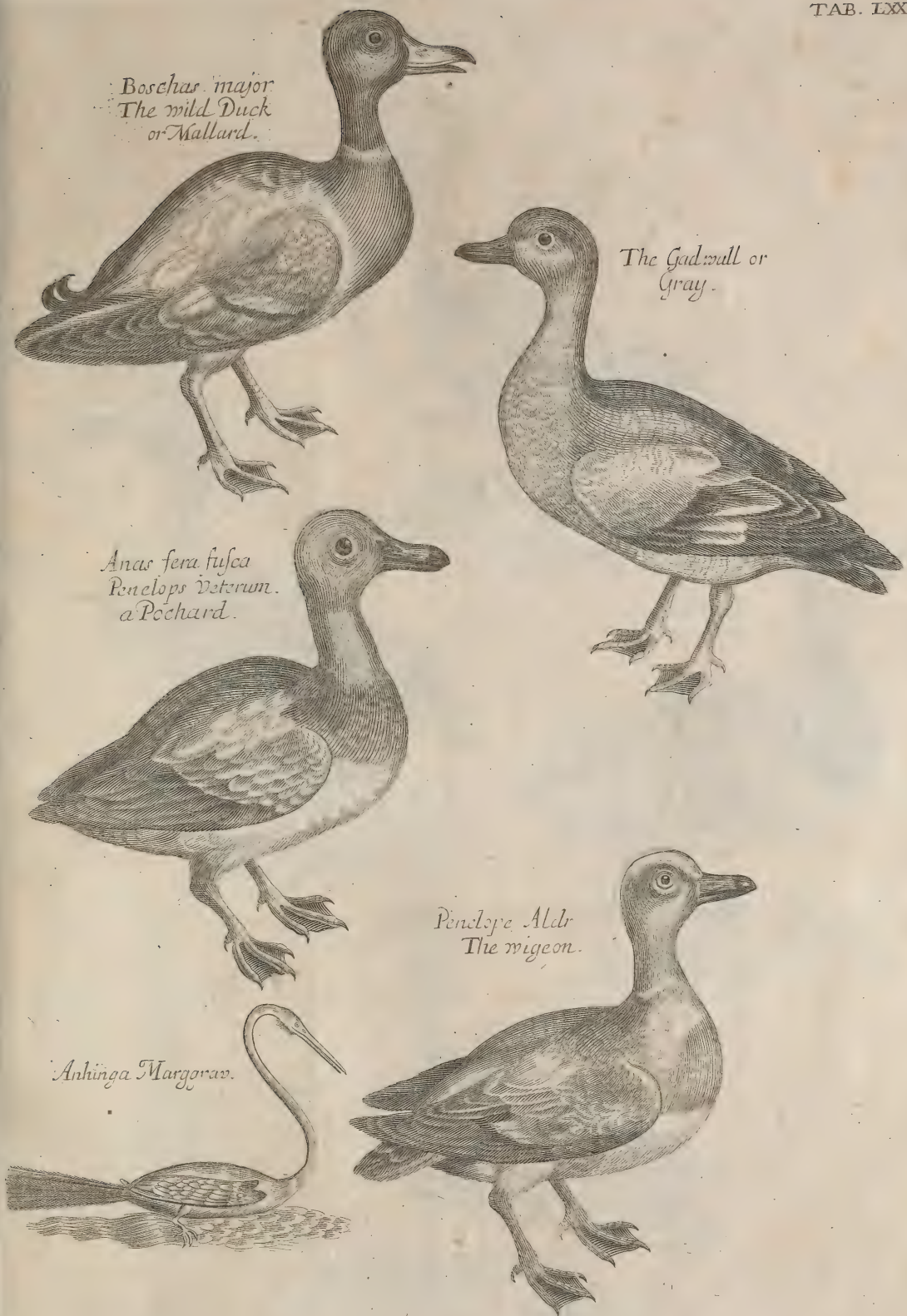
Tadorna Belloni
The Sheldrake

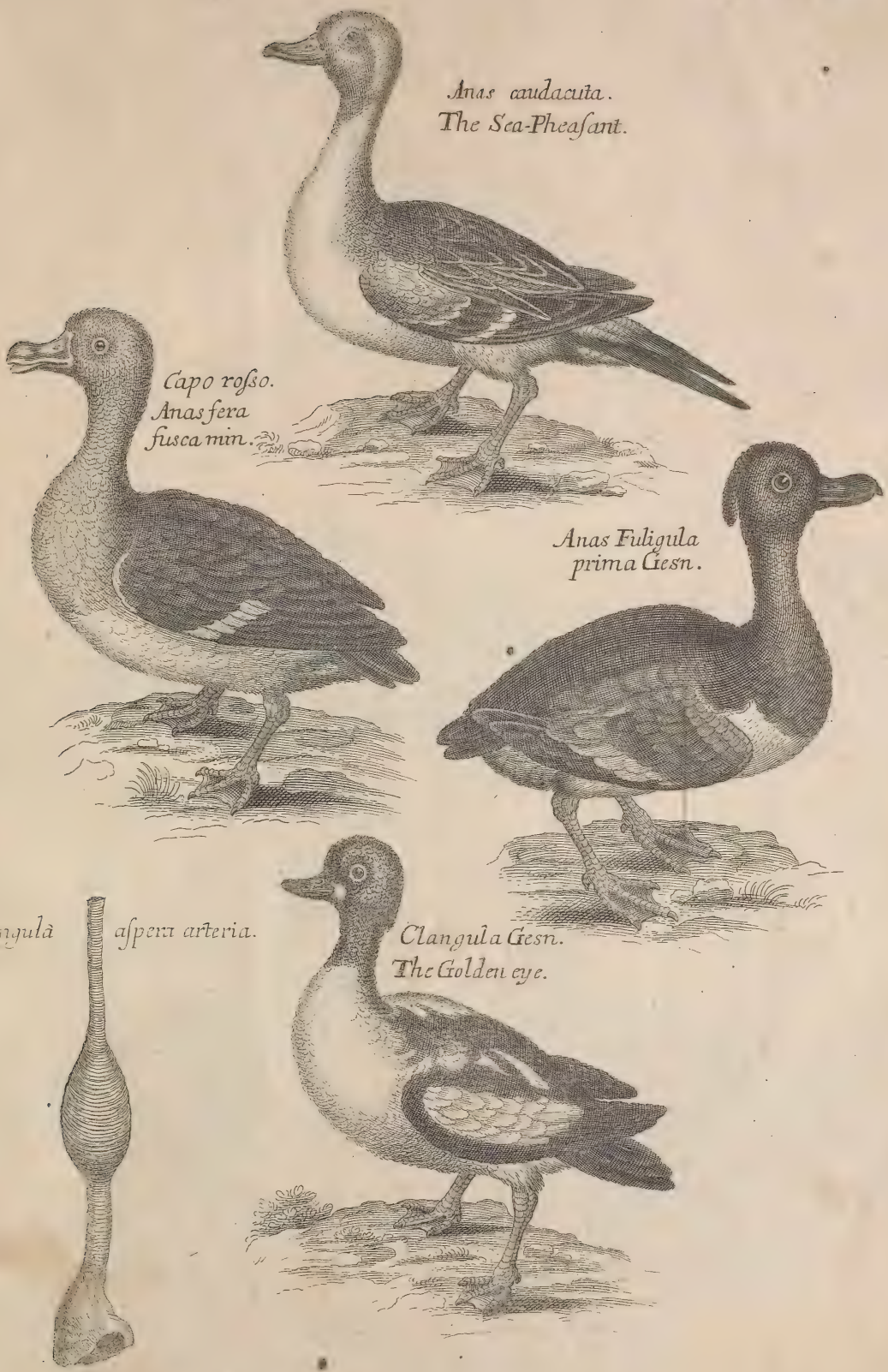
Anas niger major
The great black Duck.

Anser Gambensis
The Gambo-goose.

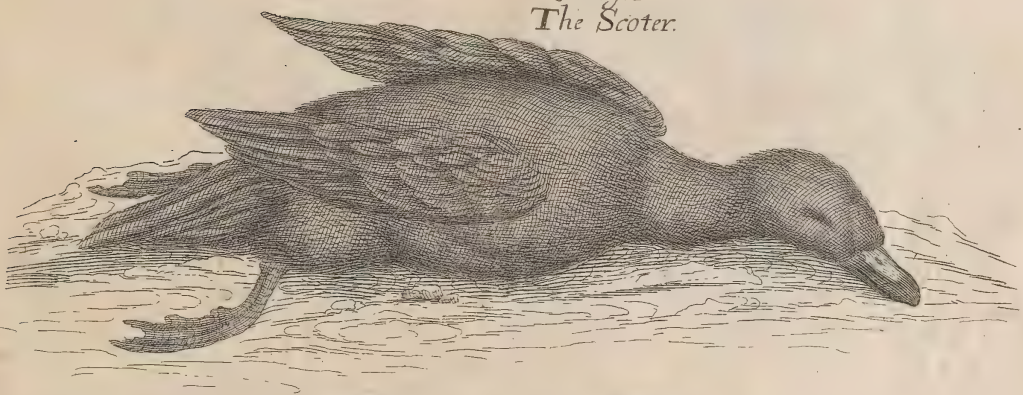
Anseri cygnoides.
The Swan-goose.

Tadorna Belloni
The Sheldrake or Burrough Duck.


Boschas major
The wild Duck
or Mallard.
The Gadwall or
Gray.
Anas fera fusca
Penelops Veterum.
a Pochard.
Penelope Aldr
The wigeon.
Anhinga Marggrav.


Anas caudacuta.
The Sea-Pheasant.
Capo rosso.
Anas fera
fusca min.
Anas Fuligula
prima Gesn.
Clangula aspera arteria.
Clangula Gesn.
The Golden eye.

Anas clypeata Germ.
The Shoveler.



Anas niger minor.
The Scoter.

Querquedula.
The Teal.

Querquedula altera.
Garganey.

Anser Domesticus
The tame Goose.
Ipecati Apoa.
Anas Domestica.
The Common tame Duck
Anas Moschata an
Cairina Aldrov.
The Moscouy Duck.
Anas rostro aduncо
The Hook-bill'd
Duck

Anas circia Gesn:
the Summer Teal.

Avis Tropicorum
the Tropick bird.

Anas S. Cuthberti
S.t Cutberts Duck.

Larus cinereus minor
the Common sea mew
or Gull.

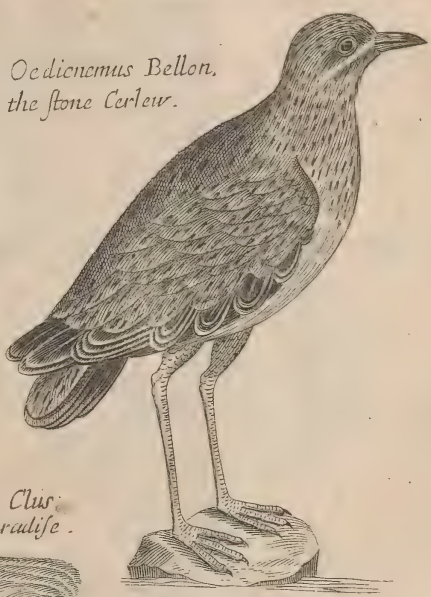
renta seu Bernicla minor
e Rat or Road-goose.

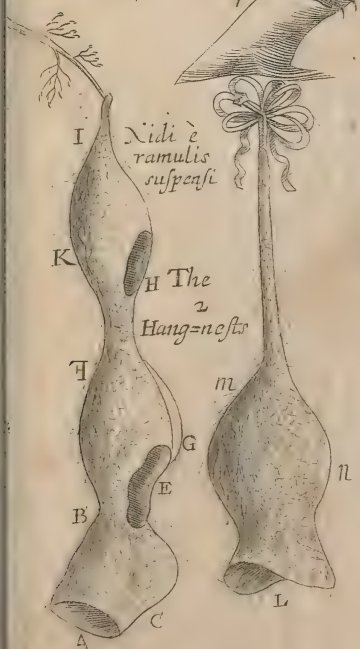
Cuculus Prior.
the Cuckow.

Cornix cinerea, frugilega,
the Royston Crow.

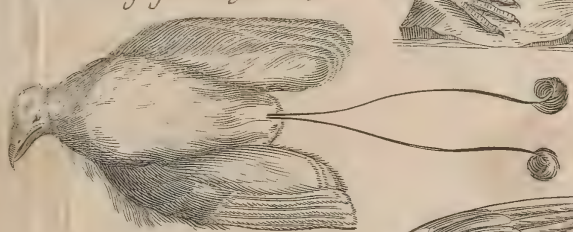
Montifringilla major.
the Greater Brandling.

Oedicnemus Bellon.
the stone Curlew.





Manucodiata Rex Clus:
The King of birds of Paradise.

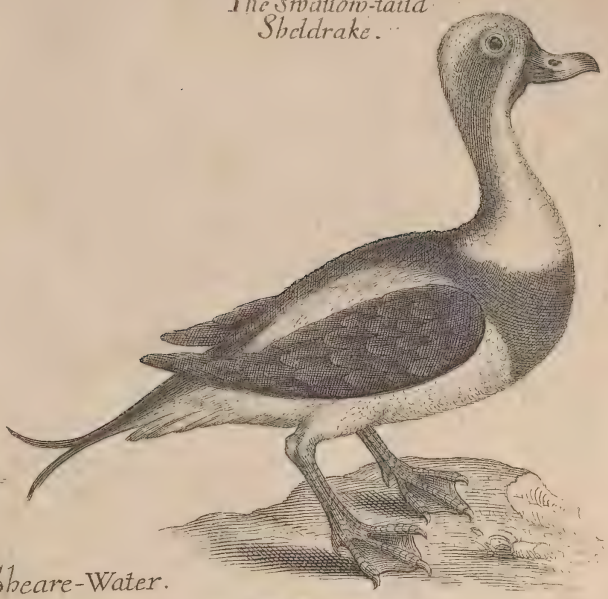


The Rabihorcado.

TAB: LXXVIII.

Anas marina caudâ forcipatâ.
The Swallow-taild Sheldrake.

Tamatia Marggravij.
An American Waterhen.



The Sheare-Water.

Columba Groenlandica.

The Greenland Dove.

Corvi Indici rostrum.
The bill of an Indian Raven.

16800

SMITHSONIAN INSTITUTION LIBRARIES
3 9088 00812 4620